

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Lee Anderson, President
Harper Theil
32nd Street & Miller Road
Wilmington, DE 19802

MAR 3 1986

Re: Harper Theil
DED 00 236 6854

Dear Mr. Anderson:

Section 3004(u) and 3008(h) of the Hazardous and Solid Waste Amendments of 1984 (RCRA Reauthorization) give EPA the authority to require corrective action for all releases of hazardous wastes or constituents from any solid waste management unit ("SWMU") as defined on the enclosed sheet. This requirement applies to operating units, inactive units, as well as those that are closing or have been closed in the past.

EPA and the State must first determine the location of all SWMUs at your facility. Next, we must determine whether or not any "releases" (see definitions) originated at these units. In order to enable us to make these determinations, you must provide the following information:

- (1) A topographic map showing the facility and a distance of 1,000 feet around it, at the scale of one-inch equal to not more than 200 feet. In addition to showing the location of the hazardous waste management facilities for which you are seeking a permit, it must locate all existing and former SWMU's at your facility.
- (2) For each SWMU, provide a description of the unit's functions, material of construction, dimensions, capacity, ancillary systems (piping), etc. If available, provide engineering drawings of the units and their foundations. For closed facilities, also provide a copy of the closure plans, a description of how closure was performed and any relevant post-closure information you have available.
- (3) For each SWMU, provide a description of all solid waste including hazardous wastes, and hazardous waste constituents received by the units. Also, provide information on quantities of hazardous wastes and hazardous waste constituents received by each SWMU and the dates during which these units operated.

-2-

- (4) For each SWMU, describe any releases (or possible releases) originating at the unit. This should include information on the date of release, type of solid waste hazardous waste or hazardous waste constituents released, quantity released, nature of the release, extent of migration, and cause of release, for example, an overflow, broken pipe, tank leak, etc. Also, provide any available data which would quantify the nature and extent of environmental contamination including the results of soil, surface water and/or ground-water sampling and analysis efforts. Likewise, any monitoring information that indicates releases are not present should also be submitted.

If some or all the above requested information has been previously submitted to this office, please reference this information in your reply.

We request under Section 3007 of the Act, 42 U.S.C. §6927, that you submit two copies of the above listed information within forty-five (45) days of your receipt of this letter to both EPA and the Delaware Department of Natural Resources and Environmental Control.

All information you submit should be certified as required by regulation 40 C.F.R. 270.11(d). Should you have any questions concerning this letter, please contact Mr. Jack Potosnak, P.E. at (215) 597-8338.

Sincerely,

Stephen R. Wassersug, Director
Hazardous Waste Management Division

Enclosure

cc: Mr. Anthony Bartolomeo, Manager
Waste Management Section
Delaware Department of Natural
Resources and Environmental Control

GUY:medrake:3HW32:2/26/86

CONCURRENCES

SYMBOL	3HW32	3HW32	3HW15	3HW30	3HW00		
SURNAME	GUY	SONCLOWSKI	ARMSTEAD	ALLEN	WASSERSUG		
DATE	BG 2/26/86	2/26/86	2/26/86	2/26/86	3/3/86		



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT

89 KINGS HIGHWAY
P.O. BOX 1401
DOVER, DELAWARE 19903

TELEPHONE: (302) 736-4765

OFFICE OF THE
DIRECTOR

DED002366854

NOD-#88-C-04
Generator #DED0002366854
September 20, 1988

rec'd 9/30/88
jfr

Mr. L. W. Anderson
President
~~Harper Thiel Inc.~~
32nd & Miller Road
Wilmington, DE 19802

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
P929 325 116

RE: Notice of Deficiency #T-88-02

Dear Mr. Anderson:

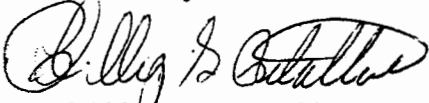
The February 28, 1985 application for a hazardous waste storage/treatment permit which Harper Thiel submitted, was not complete as required by 124.3(a)(2) of the Delaware Regulations Governing Hazardous Waste (DRGHW). In accordance with Section 124.3(c), you are hereby notified of the application deficiencies. Information that must be submitted in order to complete the application is listed in the June 30, 1988 attachment. In accordance with Section 124.3(c) of DRGHW, it is hereby specified that Harper Thiel is to submit the information necessary to complete the application within 60 days of receipt of this Notice of Deficiency.

In your response to this Notice of Deficiency, you may address any of the eight storage/treatment locations you do not want permitted by either certifying that these units were never used as hazardous waste storage/treatment units or contacting the Hazardous Waste Management Branch in preparation for Part 265 closure procedures. If you choose to certify their non use, pursuant to Section 122.11(b) of the Delaware Regulations Governing Hazardous Waste (DRGHW) the Department requires that a principle executive officer, of at least the vice president level, make that certification in writing. The certification must include the language in Section 122.11(d).

Regarding your claim of confidentiality for your entire hazardous waste permit application, for the reasons stated in the attachment, the Department considers no part of Harper Thiel's permit application confidential. However the Department will review any additional information you may later submit with regard to the Department certifying confidentiality. You should seek confidentiality only on those parts of the application for which you can answer question A. Thru F. on page 3-1 of EPA form 3510-3 (site form part A attached).

Failure to adequately address the deficiencies identified herein within the specific time frame provided may jeopardize issuance of a part B for this facility. If you have any questions please contact, Mr. Alan Simpson at 736-4185. A copy of the checklist used to review your application has been attached.

Sincerely,

A handwritten signature in dark ink, appearing to read "Phillip G. Retallick", is written over the typed name.

Phillip G. Retallick
Director

PGR:AHS:mac
AHS88042

cc: Gary A. Molchan
J. Paul Jones, PE
Alan Simpson
John E. Wilson, III
Victoria Binetti

2059

September, 1986

HARPER-THIEL, INC.
32nd & Miller Road
Wilmington, Delaware 19802
DED002366854

FACILITY MANAGEMENT PLAN

I. SUMMARY:

A. Current Permit Status

This company operates a hazardous waste treatment and storage facility under interim status. A Part B application was submitted on February 28, 1985. A response to EPA's March 3, 1986 request for information on Solid Waste Management Units (SWMU) was received on April 16, 1986.

B. Current Compliance Status

This facility is currently in compliance.

C. Environmental Significance

There is no evidence of contamination at this facility. There is no public drinking water source in close proximity to this facility. There have been no CERCLA investigations conducted at this facility.

D. Probable Outcome

The State will review the facility's Part B application for completeness and EPA will complete a RCRA Facility Assessment at this facility. A joint final permit determination on this facility will be made in FY'87.

II. FACILITY MANAGEMENT STUDY

A. Summary of RCRA Units

1. Container storage
2. Treatment

B. Permit Issuance Strategy

Delaware is the lead permitting authority. The State will review the facility's Part B application for completeness and make a final permit determination on this facility in FY'87. EPA would issue the portion of the permit dealing with HSWA requirements.

C. Enforcement Strategy

Based on current information, no enforcement action is planned at this time.

D. Implementation Schedule

87

Action	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.
Part B Application				
Completeness Check		DE		
RFA			EPA	
Permit Determination				DE/EPA

III. FACILITY DESCRIPTION

A. RCRA Regulated Units/Process Description

Harper-Thiel is a small electroplating and metal finishing facility. Harper-Thiel stores hazardous waste in containers. Containers holding cyanide bearing waste are stored in a secured storage building; sludges containing heavy metals are stored in two large lined and covered metal containers outside.

B. Permit/Closure Status

This facility is a hazardous waste facility under interim status. The facility intends to obtain a RCRA permit for storage and treatment. The State plans to review the Part B application and make a final permit determination in FY'87.

C. Solid Waste Management Units (SWMUs)

EPA is investigating Corrective Action needs at this facility. Records indicate that this facility has been in operation since 1946. The hazardous wastes generated during that time have been stored and not disposed on-site.

IV. ISSUES AND OBSTACLES

None seen at this time.

V. COMPLIANCE AND ENFORCEMENT HISTORY

A. Enforcement Actions

The State issued an NOV on December 21, 1982 for Part 265 contingency plan, job title and description violations.

A NOV was also issued on July 21, 1984 by the state for inadequate aisle spacing in the storage building. Both of these problems were corrected in a timely manner. Records indicate no further violations.

B. Inspections

<u>Date</u>	<u>Action Taken</u>
March 24, 1986	none
September 12, 1985	none
June 19, 1984	NOV
September 19, 1983	informal
September 16, 1982	NOV

2055

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved OMB No. 2050-0020 Expires 10-31-91
GSA GEN. REG. NO. 27-0-07

Please refer to the instructions for Filing Notification before completing this form. The information requested here is required by law (Section 3070 of the Resource Conservation and Recovery Act).



EPA

Notification of Regulated Waste Activity

United States Environmental Protection Agency

007 Date Received
(For Official Use Only)

EPA R3

I. Installation's EPA ID Number (Mark 'X' in the appropriate box)

☐

A. First Notification

☒

B. Subsequent Notification
(complete item C)

C. Installation's EPA ID Number

D E D 0 0 2 3 6 6 8 5 4

II. Name of Installation (Include company and specific site name)

H A R P E R - T H I E L I N C O R P O R A T E D

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street

3 2 0 1 M I L L E R R O A D

Street (continued)

City or Town

W I L M I N G T O N

State

D E

ZIP Code

1 9 8 0 2 - 2 5 9 6

County Code County Name

N E W C A S T L E

IV. Installation Mailing Address (See instructions)

Street or P.O. Box

3 2 0 1 M I L L E R R O A D

City or Town

W I L M I N G T O N

State

D E

ZIP Code

1 9 8 0 2 - 2 5 9 6

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (last)

A N D E R S O N

(first)

L E E

Job Title

P R E S I D E N T

Phone Number (area code and number)

3 0 2 - 7 6 4 - 8 9 4 5

VI. Installation Contact Address (See instructions)

A. Contact Address Location

☐☒

B. Street or P.O. Box

3 2 0 1 M I L L E R R O A D

City or Town

W I L M I N G T O N

State

D E

ZIP Code

1 9 8 0 2 - 2 5 9 6

VII. Ownership (See instructions)

A. Name of Installation's Legal Owner

H A R P E R - T H I E L I N C O R P O R A T E D

Street, P.O. Box, or Route Number

3 2 0 1 M I L L E R R O A D

City or Town

W I L M I N G T O N

State

D E

ZIP Code

1 9 8 0 2 - 2 5 9 6

Phone Number (area code and number)

3 0 2 - 7 6 4 - 8 9 4 5

B. Land Type

P

C. Owner Type

P

D. Change of Owner Indicator

Yes

No

X

Date Changed

Month

Day

Year

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved OMB No. 2060-0026, Expires 10-31-91
GSA FPMR (41 CFR) 101-11.6

10 - For Official Use Only

VIII. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. Refer to instructions.)

A. Hazardous Waste Activity

1. Generator (See instructions) ☒ 3. Treater, Storer, Disposer (at installation)
a. Greater than 1000 kg/mo (2,200 lbs.)
b. 100 to 1000 kg/mo (220 - 2,200 lbs.)
☒ c. Less than 100 kg/mo (220 lbs.)
2. Transporter (Indicate Mode in boxes 1-5 below)
a. For own waste only
b. For commercial purposes
Mode of Transportation
☐ 1. Air
☐ 2. Rail
☐ 3. Highway
☐ 4. Water
☐ 5. Other - specify
4. Hazardous Waste Fuel
a. Generator Marketing to Burner
b. Other Marketers
c. Burner - indicate device(s) -
Type of Combustion Device
☐ 1. Utility Boiler
☐ 2. Industrial Boiler
☐ 3. Industrial Furnace
☐ 5. Underground Injection Control

B. Used Oil Fuel Activities

1. Oil-Specification Used Oil Fuel
a. Generator Marketing to Burner
b. Other Marketers
c. Burner - indicate device(s) -
Type of Combustion Device
☐ 1. Utility Boiler
☐ 2. Industrial Boiler
☐ 3. Industrial Furnace
2. Specification Used Oil Fuel Marketer
(or On-site Burner) Who First Claims
the Oil Meets the Specification

IX. Description of Regulated Wastes (Use additional sheets if necessary)

A. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. (See 40 CFR Parts 261.20 - 261.34)

1. Ignitable (D001) ☐ 2. Corrosive (D002) ☐ 3. Reactive (D003) ☐ 4. Toxicity Characteristic (D000) ☒

(List specific EPA hazardous waste number(s) for the Toxicity Characteristic contaminant(s))

B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33. See instructions if you need to list more than 12 waste codes.)

1 D 0 0 7	2	3	4	5	6
7	8	9	10	11	12

C. Other Wastes. (State or other wastes requiring an LD number. See instructions.)

1	2	3	4	5	6
---	---	---	---	---	---

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature

Lee W. Anderson

Name and Official Title (type or print)

Lee W. Anderson President

Date Signed

10-4-90

XI. Comments

Additional Projected TCLP Waste

Buffing Dust Collector Fines

Approx. 15 lb./mo S01 (Dot 17-H) Satelited at dust collector.

Notes: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

OCT 15 1990

EPA, R3

adding 0004
using 3-TSD facility

done per HST P. 9/18

HAZARDOUS WASTE DATA MANAGEMENT SYSTEM
MAINTENANCE FORM FOR NOTIFICATION

JUL 8 1991

EPA-ID # ID E I D U I A I 2 I 3 I 6 I 6 I 8 I 5 I 4 I

Date: 7/5/91

FACILITY NAME Harper-Thiel Inc

New Facility Name

Contact Person/Position

Anderson, Lee President (302) 764-2945
(Last, First, M) Title Tel No.

MAILING ADDRESS Street 3201 MILLER Rd
City WILMINGTON State DE Zip 19802-2596

LOCATION ADDRESS Street SAME
City _____ State _____ Zip _____

County Name _____ County Code _____

Owner Name _____ Operator Name _____

Activity Code

- ☐ Gen ☐ TR ☒ Tsd
- ☐ 5. Market or Burn HWF
- ☐ A. Gen Mark to Burn
- ☐ B. Other Marketer
- ☐ C. Burner

Used Oil Fuel Activities

- ☐ 6. Off-Spec Used Oil Fuel
- ☐ A. Gen Mark to Burn
- ☐ B. Other Marketer
- ☐ C. Burner
- ☐ 7. Spec Used Oil Fuel Mark

Waste Fuel Burning: Type of Combustion Device

☐ Utility Boiler ☐ Ind. Boiler ☐ Ind. Furnace

Mode of Transportation (Transporters only)

☐ Air ☐ Rail ☐ Highway ☐ Water ☐ Other

Maintenance Screens

W1 Card

Existing Waste Code	New Waste Code
_____	<u>0007</u>
_____	_____
_____	_____
_____	_____

F2 Card

Non-Reg Ind _____ (c303)

1911

1911

1911



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

CERTIFIED MAIL

AUG 25 1990

RETURN RECEIPT REQUESTED

Environmental Coordinator
Harper Thiel Inc
32nd & Miller RD
Wilmington, DE 19802

Re: TCLP Final Rule

Dear Coordinator:

On March 29, 1990 the United States Environmental Protection Agency (EPA) promulgated the Toxic Characteristics (TC) final rule. The rule replaces the Extraction Procedure (EP) leach test with the Toxicity Characteristic Leaching Procedure (TCLP); it also adds 25 organic chemicals to the list of hazardous wastes; and it establishes regulatory levels for these 25 organic chemicals.

The purpose of this letter is to inform you of the new TC final rule and the implications it may have for your facility. According to our records your facility has been identified as either an interim status or permitted treatment, storage and disposal (TSD) facility. As such, you may be subject to TC wastes. We recommend that you:

1. Evaluate and analyze your waste streams to determine if you are going to be managing TC wastes.
2. If you are going to be managing TC wastes you must be in compliance with the TC rule by September 25, 1990.
 - A. Large Quantity Generators must comply with all applicable Subtitle C regulations for newly regulated TC wastes.
 - B. Interim Status facilities must submit amended Part A permit applications to the EPA.
 - C. Permitted TSD facilities must submit Class I permit modifications to the EPA and as appropriate a Class II or Class III permit modification within six months.

2060

FILE COPY

Page 1 of 19

COMPLIANCE ASSESSMENT REPORT

TO: Alex Rittberg and Karen J'Anthony

FROM: Alan Simpson and Patti Zietlow

SUBJECT: Harper Thiel
EPA ID#DED002366854
File Code 21

DATE: October 16, 1995



GENERAL INFORMATION

Facility Name And Address: Harper Thiel Incorporated
32nd & Miller Road
Wilmington, DE 19802

Facility Representative: Lee W. Anderson
President
(302) 764-8945

Facility Status: In transition from interim status treatment and storage facility to small quantity generator.

Facility Units: 1 Accumulation Area
5 Satellite Accumulation Areas

Inspection Participants: Lee Wayne Anderson-Harper Thiel
Alan Simpson - State of DE DNREC HWMB
Patti Zietlow - State of DE DNREC HWMB

Date Of Inspection: September 28, 1995

Applicable Regulations: 40 CFR Parts 260-272

Purpose Of Inspection: Annual Compliance Assessment (CA)

1.0 PRE-INSPECTION


1.1 Document Review

HWMB personnel reviewed the following documents prior to the September 28, 1995 inspection:

1. Annual Report file.
2. 1994 Manifests.
3. Closure Plan and Closure Report
4. CEI Inspection Report file.
5. Facility Management Plan.
6. Part A and Part B record files.
7. Notice of Violation, Letter of Warning, Memorandum and Correspondence files.
8. State of Delaware Emergency and Hazardous Chemical Inventory Annual Chemical Forms (Tier II).
9. POTW Permit

Air Resources files did not contain any Toxic Release Inventory Reporting Forms for Harper-Thiel. Harper-Thiel claimed exemption from filing the 1994 Annual Report.

1.2 Safety Preparation

Based on prior visits to the facility, the HWMB determined that steel toed boots, safety glasses with side shields and hard hats were appropriate personal protective equipment for the inspection.

2.0 FACILITY BACKGROUND

Harper-Thiel, Incorporated is a small, privately owned electroplating and metal finishing facility that has operated continuously since 1946. Built in the early 1900's, the facility was owned and operated by DuPont prior to purchase by Harper-Thiel in 1946. Harper-Thiel has operated since 1981 as a hazardous waste treatment and storage facility under interim status (EPA 1981). The company attempted to attain permit status but was unable to do so because they could not secure required liability insurance for sudden accidental occurrences. In 1990, Harper-Thiel notified the HWMB that they were initiating RCRA closure activities at their facility. On August 11, 1993, the HWMB approved Harper Thiel's plan to close five hazardous waste storage units authorized to operate under interim status. RCRA closure activities began in December 1993 and were completed in March 1995 with the submission of the Closure Report to the HWMB. The HWMB is currently reviewing the Closure Report. Lee Wayne Anderson is currently president of Harper-Thiel. Harry Thiel, one of

the originally founders of the company, was Lee Wayne Anderson's wife's grandfather.

Harper-Thiel discharges to The City of Wilmington Publicly Owned Treatment Works under Permit #W-86-01. The City requires Harper-Thiel to test at least four days in six months for cadmium, cyanide A and lead and once every six months for total toxic organics .

The Harper-Thiel facility consists of the following buildings:

Building I

Southwest Corner

- Offices.

Northeast Wing

- Shipping and receiving.
- Hazardous waste accumulation area (drum staging area).
- Buffing and grinding.
- HCl chrome stripping.
- Nickel sulfamate plating.
- Acid copper plating.
- Sodium stannate plating.

Northwest Wing

- Lead plating.
- Chemical storage (including chemicals from DuPont era, some chemicals unknown)
- Gold plating.
- Instrument using low level radioactive source.

Northwest Wing Basement

- Gas boiler.
- Metal parts storage.
- Chemical storage (including rusted shut old lead? paint cans, leaking caustic metal cans).
- Asbestos covered wire storage.

Second Floor

- DuPont era records storage.
- Metal parts storage.

Building III

- Chrome plating.
- Bright nickel plating.
- Cupric hydroxide sludge storage.
- Ionsep 1000 catalyte storage.
- HCl etching.
- Satellite accumulation area for H_2SO_4 etching sludge.
- Satellite accumulation area for chrome contaminated debris (gloves).
- Chemical storage.
- Metal contaminated tape storage (from taping parts of item that they don't want plated)

Building IV

- Metal parts storage (northwest end).
- Chrome plating.
- Satellite accumulation area for chrome contaminated debris (gloves).
- Cation/anion exchange column.
- Ionsep 9001 unit.
- Ionsep 9001 unit sludge storage (open plastic pail).

Building V

- Silver cyanide plating.
- Cadmium cyanide plating.
- Copper cyanide plating.
- Copper strike cyanide plating.
- Cyanide destruction.
- Chemical storage.
- Re-sizing of aluminum oxide for re-use in sand blasting.

Building VI

- Machine shop (did NOT see any parts washers or oily rags).
- Chemical storage (including cupric oxide sludge and lead fluoroborate).

Building VII

- Compressors.
- Sand blasting.

Building IX

- Metals parts storage.
- Chemical storage.

Building X

- Chemical storage (northeast end only).

Building XI

- Ionsep research building.

Building XII

- Caustic storage.
- Chrome stripping.

Building XIII

- Picric acid storage (less than 2 pounds).

Building XIV

- Rotary vacuum filter.

Acid House

- Chemical storage.

Boiler Room

- Boiler
- Ferrous blackening.
- Satellite storage area for boiler sludge and ferrous blackening sludge.

Storage Garage

- Metal parts storage (Photo #3).

Figure 1-1 depicts the building locations. The building numbers correspond to those contained in Harper-Thiel's 1994 State of Delaware Emergency and Hazardous Chemical Inventory (Tier II) submittal to DNREC Air Resources. Building numbers are displayed on the sides of the buildings.

3.0 HAZARDOUS WASTE GENERATION

Harper-Thiel generates various hazardous wastes during normal electroplating operations. Hazardous waste is either shipped off site for disposal, treated on site, or stored on site while exploring markets for the waste. The facility shipped 1,315 pounds of hazardous waste off site in 1994.

3.1 Chrome Electroplating

Chrome electroplating is performed in Buildings III and IV (Photo #4). Building III houses one chromium plating bath and Building IV contains six chromium plating baths. The chrome plating baths consist of lead anodes and a solution of chromic acid and sulfuric acid. Wastes typically generated from chrome electroplating include:

- Lead Chromate Sludge

Lead chromate forms on the lead anodes and must be removed. The resulting lead chromate sludge collects in the bottom of the tank. The sludge also contains lesser

amounts of silicates and barium sulfate and trace amounts of antimony. The tank bottom sludges are cleaned out and placed in satellite accumulation storage. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped lead chromate sludge off-site for disposal in the past. Harper-Thiel does not presently accumulate lead chromate sludge.

- **Chrome Contaminated Debris and Gloves**

Harper-Thiel currently collects chrome contaminated debris and gloves in two satellite accumulation areas. The gloves and debris are generated at the place where they are accumulated. The satellite accumulation areas consist of one 55 gallon steel drum located in Building III and one 55 gallon steel drum located in Building IV. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped chrome contaminated debris and gloves off-site for disposal in the past.

- **Spent Chrome Plating Bath**

The chrome plating bath can become spent because of a slow build up of cationic impurities. Harper-Thiel has no records of past or present accumulation of spent chrome plating baths.

- **Spent Chrome Plating Rinse Waters**

Harper-Thiel uses spent chrome plating rinse water as water make up in the chrome plating baths.

POTENTIAL VIOLATIONS:

☺ None.

3.2 Cyanide Plating

All cyanide plating occurs in Building V. Harper-Thiel operates four separate cyanide plating baths: 1) copper cyanide plating; 2) copper strike plating; 3) silver cyanide plating; and 4) cadmium cyanide plating. Carbonate builds up in the cyanide baths requiring either the carbonate to be separated out of the baths or requiring the bath to be replaced. Harper-Thiel removes the carbonate by lowering the bath temperature until the carbonate precipitates out. Harper-Thiel then oxidizes the cyanide laden carbonate in a polyethylene container by adding sodium hypochlorite (Photo #6). The resulting sludge is managed as a hazardous waste because of the metal content. Although Harper-Thiel does not currently accumulate this sludge, a review of Harper-Thiel's inventory storage book during the Compliance

Assessment indicated that the facility shipped the sludge off-site for disposal in the past. The polyethylene container was empty on the day of the Compliance Assessment. Alan and Patti recommend advising Harper-Thiel that the container used to treat the cyanide laden carbonate must be labeled with the accumulation start date and must be emptied every 90 or 180 days when in use and must meet the applicable Part 265 Subpart I standards (use and management of containers). Harper-Thiel should also be advised that if treatment does not occur in the accumulation container, the facility must obtain a permit for the treatment process.

Lee Wayne Anderson stated during the Compliance Assessment that Harper-Thiel manages cyanide contaminated floor sweepings, gloves and debris by segregation and sodium hypochlorite addition. Alan and Patti, however, could find no past or present evidence of cyanide contaminated floor seeping, glove and debris management during the Compliance Assessment.

POTENTIAL VIOLATIONS:

- ⊗ §262.34(a)(1) for exceeding the 90 or 180 day accumulation time limit for the treatment/accumulation container.
- ⊗ §262.34(a)(3) for failure to label treatment/accumulation container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the treatment/accumulation container with the accumulation start date.
- ⊗ §265.173(a) and §265.173(b) for failure to keep the treatment/accumulation container closed and failure to manage the container in a manner in a manner that prevents leaks.
- ⊗ Failure to obtain a permit to treat outside the accumulation container.

3.3 Chrome Stripping by Caustic

Harper-Thiel strips chrome from some metal parts by placing the parts into a caustic solution. The stripping solution eventually becomes spent with a build up of sodium chromate. Harper-Thiel regenerates the sodium chromate into sodium hydroxide and chromic acid ($H_2Cr_2O_7$) using a Ionsep Model 9001 electrodialysis unit. The Ionsep unit is located in Building IV. The sodium hydroxide is re-used for stripping chrome parts. The chromic acid is used for make-up in the chrome electroplating solution. Sludge generated by the Ionsep 9001 unit is stored in an open, 5 gallon, polyethylene pail next to the unit. The pail is left open to facilitate drying of the sludge via evaporation. Harper-Thiel does not know whether or not the sludge is hazardous waste. The pail contained approximately 2 inches of sludge on the day of the Compliance Assessment. The pail was not labeled. Alan and Patti recommend requiring Harper-Thiel to make a hazardous waste determination for the

sludge. If the sludge is hazardous waste, then Harper-Thiel was in violation of the following container storage and management regulations on the day of the Compliance Assessment: §262.34(a)(3); §262.34(a)(2); §265.173(a); §265.173(b).

POTENTIAL VIOLATIONS:

- ⊗ §262.11 for failure to make a hazardous waste determination.
- ⊗ §262.34(a)(3) for failure to label treatment/accumulation container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the treatment/accumulation container with the accumulation start date.
- ⊗ §265.173(a) and §265.173(b) for failure to keep the treatment/accumulation container closed and failure to manage the container in a manner in a manner that prevents leaks.

3.4 Chrome Stripping by Hydrochloric Acid

Hydrochloric acid (HCl) chrome stripping is performed in the northeast wing of Building I. Chrome is stripped from certain metal parts by placing the parts into 9N hydrochloric acid. The stripping solution eventually becomes spent with a build up of trivalent chromium. In the past, Harper-Thiel raised the pH of the spent stripping solution to precipitate out chromium hydroxide. The chromium hydroxide precipitate was then shipped off-site for disposal as documented in Harper-Thiel's inventory storage book. Presently, however, Harper-Thiel stores the spent HCl with trivalent chromium in two, 4 foot wide by 12 foot long by 8 foot high metal storage containers located outside between Building XIV and Building I (Figure 1; Photo #5). Container A contained 6 feet of liquid and Container B contained 5 feet of liquid on the day of the Compliance Assessment. The total volume of spent HCL with trivalent chromium stored in the two tanks on the day of the Compliance Assessment was 3,950 gallons. According to Lee Wayne Anderson, Harper-Thiel has been storing the spent HCL with trivalent chromium since 1983.

Lee Wayne Anderson stated during the Compliance Assessment that the spent HCl acid with trivalent chromium is not waste and has several potential uses including the manufacture of iron-chromium redox batteries. The solution is also the subject of "intense research", according to Mr. Anderson. Analysis of the spent HCl acid with trivalent chromium indicated that the solution is composed of 47% water, 27% trivalent chrome, 6% HCl and 20% chloride. Harper-Thiel is storing the spent HCl with trivalent chromium while exploring markets for this solution.

Harper-Thiel has one HCl acid chrome stripping vat in use inside Building I. The 17 foot 5 inch long by 2 foot 4 inch wide by 3 foot 3 inch tall vat contained 990 gallons of HCl

with trivalent chromium on the day of the Compliance Assessment.

Harper-Thiel's storage of the spent HCl containing trivalent chromium constitutes speculative accumulation [DRGHW §261.1(c)(8)] because the material has been stored with a legitimate expectation of eventual recycling, but has never been recycled. The facility's failure to manage the spent HCl acid containing trivalent chromium as hazardous waste is a violation of the following DRGHW: §262.34(a)(3); §262.34(a)(2); §265.201(c).

POTENTIAL VIOLATIONS:

- ⊗ §261.1(c)(8) for speculative accumulation.
- ⊗ §265.201(c) for failure to inspect containers.
- ⊗ §262.34(a)(3) for failure to label the container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the container with the accumulation start date.

3.5 Copper Stripping by Sulfuric and Chromic Acid

Copper is stripped from some metal parts by placing the parts into a mixture of sulfuric and chromic acid. The stripping solution eventually becomes spent with a build up of divalent copper. Harper-Thiel regenerates the spent stripping solution into cupric hydroxide sludge and a mixture of sulfuric and chromic acids using a Ionsep Model 1000 electrodialysis unit. The sulfuric and chromic acid mixture is re-used for the stripping of copper parts. The cupric hydroxide sludge is stored on-site. According to Lee Wayne Anderson, the sludge can be mixed with sulfuric acid and used as plating feedstock. Harper-Thiel, however, has not used any of the sludge as feedstock to date. Building III contained one 55 gallon drum of cupric hydroxide sludge and Building VI contained eighteen 55 gallon drums of cupric hydroxide sludge on the day of the Compliance Assessment. Because of uncertainty in the written descriptions of certain sludges documented in Harper-Thiel's inventory storage book, it is unclear whether or not this type of waste was shipped off-site for disposal in the past. According to Lee Wayne Anderson, Harper-Thiel has been storing the cupric hydroxide sludge on site since 1982.

Although the cupric hydroxide sludge is not a listed and probably not a characteristic hazardous waste, Alan and Patti recommend that Harper-Thiel make a hazardous waste determination for the sludge. If the sludge is a hazardous waste, then Harper-Thiel's storage of the sludge constitutes speculative accumulation [DRGHW §261.1(c)(8)] because the material has been stored with a legitimate expectation of eventual recycling, but has never been recycled.

POTENTIAL VIOLATIONS:

- ⊗ §261.1(c)(8) for speculative accumulation.
- ⊗ §265.201(c) for failure to inspect containers.
- ⊗ §262.34(a)(3) for failure to label the containers with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the containers with the accumulation start date.

3.6 Ferrous Blackening

Ferrous blackening is performed in the Boiler Room. Iron based metal parts are immersed in highly caustic Penetrate Super Black® bath. The bath coats the outside of the parts turning the metal black by oxidizing the iron. High pH tank bottom sludges are generated from this process. A July 2, 1980 analysis of the sludge by Heatbath Corporation indicated that the sludge is comprised of 51% sodium carbonate, 12.7% sodium hydroxide, 28.8% water and 0.5% ferric hydroxide. The sludge is stored in a 5 gallon polyethylene pail next to the blackening bath. Lee Wayne Anderson estimates that the bath generates 40 pounds of sludge per year. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped the sludge off-site for disposal in the past.

POTENTIAL VIOLATIONS:

- ☺ None.

3.7 Acetone Cleaning of Metal Parts

Lee Wayne Anderson stated that Harper-Thiel currently uses acetone only as a solvent to wipe metal parts clean. The facility uses 250 gallons of acetone per year. Harper-Thiel manages as hazardous waste only those acetone wipes that appear to contain metals or other contamination when dry.

POTENTIAL VIOLATIONS:

- ⊗ The acetone wipes may be F003 waste.

3.8 Miscellaneous Processes

The following processes are also currently performed at Harper Thiel:

- Nitric acid stripping of lead parts. Bath would be low pH corrosive and build up in lead ions.
- Sulfuric acid stripping of nickel parts. Bath would be low pH corrosive.
- HCl acid stripping of copper and cadmium parts.
- Lead fluoroborate plating. Bath would be low pH corrosive and contain lead ions.
- Tin plating. Bath might be low pH corrosive.
- Acid copper sulfate plating. Bath might be low pH corrosive.
- Nickel plating. Probably doesn't involve hazardous waste.
- Electroless Nickel plating. Probably doesn't involve hazardous waste.
- Citrate gold plating. Might be a cyanide bath.

Due to time constraints during the Compliance Assessment, Alan and Patti did not investigate the above processes well enough to confirm the types of waste streams generated. Lee Wayne Anderson mentioned during the Compliance Assessment that Harper-Thiel has done "virtually no" acid stripping of copper, cadmium, lead and nickel since the Building III fire in 1991.

3.9 Discontinued Processes

Harper-Thiel has discontinued the following processes described in past Compliance Evaluation Reports and the RCRA Facility Assessment (DNREC 1990):

- Spent Acetone Distillation

In the past, Harper-Thiel hired a vendor (Engove) to bring a portable distillation unit to the site to recover spent acetone generated from delacquering metal parts. Sludge from the distillation unit was stored in 5 gallon pails in Building X. The accumulated sludge was shipped off-site for disposal as part of the RCRA Closure activities. Harper-Thiel no longer distills spent acetone. Lee Wayne Anderson stated during the Compliance Assessment that Harper-Thiel currently uses acetone only as a solvent to

wipe metal parts clean (see Section 2.7).

- Cation-Anion Stripping

The RCRA Facility Assessment and past CA Reports describe a cationic/anionic exchange column stripping process used by Harper-Thiel to recover plating bath rinse waters. The process generated metal-contaminated sulfuric acid sludge and sodium chromate sludge. Harper-Thiel stored the sludges on site (Pot S) pending reclamation or reformulation for reuse in the plating process. During the Compliance Assessment, Alan and Patti asked Lee Wayne Anderson how much of the sludges he had stored on site. Mr. Anderson responded that Harper-Thiel never generated or stored the sludges. Harper-Thiel used the cationic/anionic exchange column (located in Building IV) only once to recover plating bath rinse waters as a test run. The test was conducted in 1992. Mr. Anderson said he provided DNREC with information on the cationic/anionic exchange column process for the 1990 RCRA Facility Assessment because he thought at that time that Harper-Thiel would be using the process to recover plating bath rinse waters. Harper-Thiel uses the cation/anion exchange column only to manufacture deionized, distilled water.

4.0 HAZARDOUS WASTE MANAGEMENT UNITS

Harper-Thiel manages hazardous waste in a hazardous waste accumulation area and in satellite accumulation areas. The hazardous waste accumulation area, located in the northeast wing of Building I, was empty on the day of the Compliance Assessment. Harper-Thiel was operating the following satellite areas on the day of the Assessment:

<u>Building</u>	<u>Location</u>	<u>Waste Managed</u>	<u>Container</u>
III	Next to etching tank.	H ₂ SO ₄ etching sludge.	5 gallon polyethylene pails.
III	Next to chrome plating tank.	Chrome contaminated debris.	55 gallon steel drum.
IV	Next to chrome plating tank.	Chrome Contaminated debris.	55 gallon steel drum.
Boiler Room	Next to boiler.	Boiler sludge.	55 gallon steel drum.
Boiler Room	Next to blackening bath.	Ferrous blackening sludge.	5 gallon polyethylene pail.

Harper-Thiel also stores spent HCl acid with trivalent chromium in two metal storage containers located outside between Building XIV and Building I (see Section 2.4 above). Lee Wayne Anderson, however, does not consider the spent HCl acid with trivalent chromium waste.

The total volume of hazardous waste stored on-site on the day of the Compliance Assessment was:

<u>Waste</u>	<u>Amount</u>
H ₂ SO ₄ etching sludge.	30 gallons
Building III Chrome contaminated debris.	27.5 gallons (1/2 of a 55 gallon drum)
Building IV Chrome contaminated debris.	41.25 gallons (3/4 of a 55 gallon drum)
Boiler sludge.	18 gallons (1/3 of a 55 gallon drum)
Ferrous blackening sludge.	5 gallons
*Spent HCl acid with trivalent chromium.	3,950 gallons

TOTAL 4,071.75 gallons

* - Not considered waste by Lee Wayne Anderson

5.0 INSPECTION OBSERVATIONS

5.1 On-Site Paperwork Review

All RCRA related paperwork is stored in Building I in Lee Wayne Anderson's office. Alan and Patti made the following observations during the on-site paperwork review:

Waste Analyses

Harper-Thiel retains waste analyses dating back to 1984.

POTENTIAL VIOLATIONS:

☺ None.

Contingency Plan

The information contained in the Contingency Plan, as amended in 1994, met the regulatory requirements.

POTENTIAL VIOLATIONS:

☺ None.

Manifests and Annual Reports

Harper-Thiel maintains manifests from 1984 to present. The facility's 1994 manifest file contained the same manifests as the HWMB file. Alan and Patti saw Annual Reports for 1991-1993. The facility claimed exemption from filing the 1994 Annual Report. The HWMB, however, considers Harper-Thiel to be a treatment and storage facility until the HWMB approves the facility's closure report. The regulations require treatment and storage facility's to file an annual report.

POTENTIAL VIOLATIONS:

- ⊗ §262.41(a) for failure to file an annual report.

Land Disposal Restrictions

Land disposal restriction notifications were attached to the 1994 manifests.

POTENTIAL VIOLATIONS:

- ☺ None.

Personnel Training

Harper-Thiel's training records contained the required list of personnel involved in handling hazardous waste, job title descriptions, training course contents, and training dates. The facility maintains training records dating back to 1984. Harper-Thiel has not hired any new employees according to Lee Wayne Anderson.

POTENTIAL VIOLATIONS:

- ☺ None.

5.2 Facility Walk Through

Alan and Patti, accompanied by Lee Wayne Anderson, inspected Buildings I, III, IV, V, VI, VII, IX, X, XI, and XII, the Storage Garage, the Boiler Room, and the numerous containers scattered outdoors over the facility grounds. Alan and Patti made the following observations:

Building I Northwest Wing

Harper-Thiel uses two rooms and a hallway storage cabinet in the northwest wing of Building I to store bottles of chemicals. The chemicals in the rooms are stored on floor to ceiling shelves, in boxes on the floor and in cupboards. Some of the chemicals date back to the early 1900's when the facility was owned by DuPont. The DuPont era chemicals are easily identified by their antique containers. Some of the chemical containers are not labeled. Lee Wayne Anderson does not know what the unlabeled chemicals are. In keeping with the HWMB chemical library policy, Alan and Patti recommend that Harper-Thiel be required to inventory the chemicals.

POTENTIAL VIOLATIONS:

- ⊗ §262.11 for failure to make a hazardous waste determination for the unknown chemicals.

Building I Northwest Wing Basement

Building I's northwest wing basement is also used for chemical storage. The chemicals are stored on shelves and in cupboards. Alan and Patti saw rusted shut old, possibly lead paint cans and leaking metal cans said by Lee Wayne Anderson to contain caustic product (not waste). Despite Harper-Thiel's claim that the paint and caustic are product, the facility is actually managing the paint and caustic as waste for the following reasons:

- The paint is probably past its expiration date and no longer useful as paint.
- Harper-Thiel has allowed the caustic product to leak indicating it has little or no value to the facility.

Alan and Patti recommend advising Harper-Thiel to properly dispose of the paint and caustic.

Building VI

Building IV houses Harper-Thiel's machine shop. Alan and Patti did not see any parts washers or oily rags.

Building X

Building X Areas I and II, closed under Harper-Thiel's Closure Plan in 1994, were vacant except for empty 5 gallon polyethylene storage pails stored in Area II (Photo

#2).

Outdoor Containers

The two pots (Pot R and Pot L) closed under Harper-Thiel's Closure Plan in 1994 were empty. The facility plans to re-use these pots once the Closure Report is approved by the HWMB. The secondary containment steel drip pan from Building IX (Closure Plan Area V) decontaminated during closure activities was located outside next to Building X (Photo #1). The pan contained approximately four inches of rainwater.

6.0 RECOMMENDATIONS

Alan and Patti recommend that DNREC issue a Letter of Warning to Harper-Thiel for the following identified violation:

1. Harper-Thiel has not determined if certain materials which it handles are hazardous wastes. Materials for which Harper-Thiel has not made a hazardous waste determination include: 1) the Ionsep 9001 sludge; 2) the unidentified chemicals stored on site; and 3) cupric hydroxide sludge. The Branch considers unidentified chemicals to be waste because unidentified chemicals can't be used as product if facility doesn't know what they are. Failure to make a hazardous waste determination is a violation of DRGHW §262.11 which states:

A person who generates a solid waste, as defined in Section 261.2, must determine if that waste is a hazardous waste.

A second Letter of Warning may be sent at a later date if warranted by the hazardous waste determinations.

Alan and Patti, after consulting with Karen J'Anthony and Alex Rittberg, also recommend that Harper-Thiel be sent a separate letter addressing activities which the Branch has had knowledge of but has not cited the facility for during past Compliance Assessments. The letter would also serve to educate Harper-Thiel on regulatory requirements once Harper-Thiel's transition from an interim status treatment and storage facility to a small quantity generator is complete. The letter should contain the following requirements:

1. The HWMB requires Harper-Thiel to properly dispose of the spent HCl acid with trivalent chromium as hazardous waste. Harper-Thiel has been storing, since 1983, spent HCl acid containing trivalent chromium while exploring markets for the solution. The spent HCl acid containing trivalent chromium is generated by the chrome stripping by hydrochloric acid process. The HWMB considers this storage of

the spent HCl acid containing trivalent chromium to constitute speculative accumulation [DRGHW §261.1(c)(8)]. Speculative accumulation occurs when a material is stored with a legitimate expectation of eventual recycling, but has never been recycled. The spent HCl acid containing trivalent chromium is therefore considered a hazardous waste and must be managed in accordance with the DRGHW. Failure to manage the spent HCl acid containing trivalent chromium as hazardous waste is a violation of the following DRGHW:



- DRGHW §262.34(a)(3) which states *"While being accumulated on site, each container and tank is labeled or clearly marked with the words 'Hazardous Waste'".*
- DRGHW §262.34(a)(2) which states *"The date upon which accumulation begins is clearly marked and visible for inspection on each container."*
- DRGHW §265.201(c) which states *"The owner or operator must inspect areas where containers are stored at least weekly looking for leaks and for deterioration caused by corrosion or other factors."*

Once Harper-Thiel's transition from an interim status treatment and storage facility to a small quantity generator is complete, the spent HCl acid with trivalent chromium cannot remain on-site for more than 180 days (270 days if the waste must be shipped over 200 miles away for disposal) without obtaining a permit.

2. The HWMB requires Harper-Thiel to inventory all chemicals stored on site, especially those housed in the two chemical storage rooms and hallway storage cabinet in the northwest wing of Building I. The inventory should note the age and expiration dates of the chemicals.
3. Harper-Thiel must submit an Annual Hazardous Waste Report for 1994. The U.S. Environmental Protection Agency and the HWMB consider Harper-Thiel to be a treatment and storage facility until the HWMB issues a letter approving Harper-Thiel's closure report. In addition, the amount of hazardous waste stored on-site places Harper-Thiel into the large quantity generator category. Treatment and storage facilities and large quantity generators are required to file an Annual Hazardous Waste Report.
4. Harper-Thiel must dispose of the rusted shut old, possibly lead paint cans and leaking metal cans containing caustic present in Building I's basement as hazardous waste. Despite Harper-Thiel's claim that the paint and caustic are product, the facility is actually managing the paint and caustic as waste for the following reasons:



- The paint is probably past its expiration date and no longer useful as paint.
- Harper-Thiel has allowed the caustic product to leak indicating it has little or no value to the facility.

The HWMB should advise Harper-Thiel of the following:

1. Neutralizing spent acid and caustic containing metals at or above TCLP maximum concentrations constitutes treatment beyond elementary neutralization and requires a permit. The maximum TCLP concentrations are found in the DRGHW in section 261.24.
2. Once DNREC approves Harper-Thiel's Closure Report, Harper-Thiel must file a new Notification of Hazardous Waste Activity form documenting Harper-Thiel's change in status from a treatment and storage facility to a small quantity generator.
3. If Harper-Thiel wants to be considered a small quantity generator, the facility cannot store over 13,200 pounds or 1,595 gallons of hazardous waste on site without a permit. On the day of the Compliance Assessment, Harper-Thiel had 4,071.75 gallons of waste stored on site, including the spent HCl acid with trivalent chromium.
4. The container used to treat cyanide laden carbonate must be labeled with the accumulation start date and the words "Hazardous Waste" and must be emptied every 90 or 180 days when in use. The container must meet the applicable Part 265 Subpart I standards (Use and Management of Containers) including keeping the container closed and managing the container in a manner that prevents leaks. If treatment of the cyanide laden carbonate does not occur in the accumulation container, the facility must obtain a permit for the treatment process.
5. Harper-Thiel must submit an Annual Hazardous Waste Report for 1995 because the amount of waste stored on site in 1995 makes Harper-Thiel a large quantity generator. Large quantity generators are required to file an Annual Hazardous Waste Report.
6. The acetone wipes used to wipe metal parts clean may be F003 waste.



REFERENCES

1990. DNREC. RCRA Facility Assessment of the Harper-Thiel, Incorporated Electroplating Facility Wilmington, Delaware. Submitted to the U.U. EPA Region III. December 14, 1990.

1981. U.S. EPA. Letter from EPA Region III to Lee Anderson. (In HWMB Part A file).

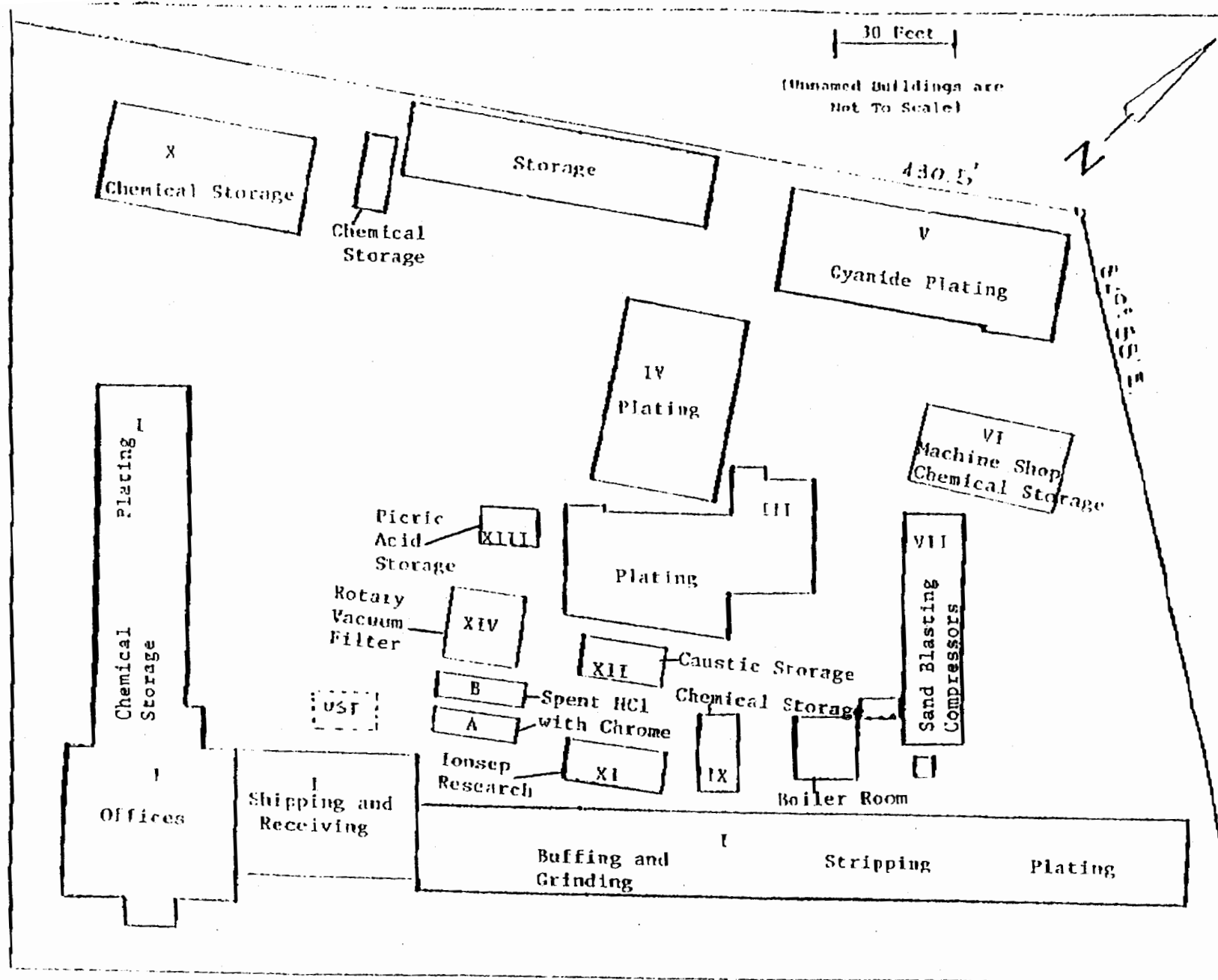
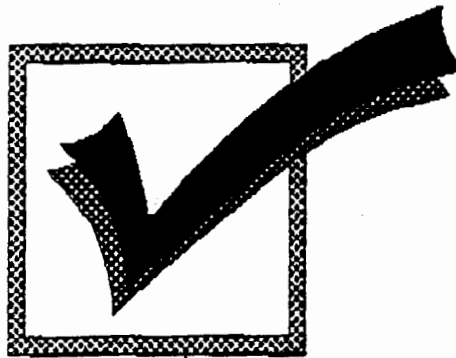


Figure 1 Facility Layout

CHECKLISTS



CHECKLIST FOR OVERVIEW OF HAZARDOUS WASTE INSPECTION

Name of Facility: Harper Theil Incorporated
Address: 32nd and Miller Road
Wilmington, DE 19802
EPA Generator ID Number: DED002366854
Date of Inspection: September 28, 1995
Inspector: Alan Simpson and Patti Zetlow
Facility Inspection Representative: Lee Wayne Anderson
Title: President
Telephone Number: (302) 764-8945

Review of DNREC Records**262.20(a); 262.44 & 262.40(a)**

Large and small quantity generators must fill out a manifest to include the information required by the form shown in Appendix II for each shipment of hazardous waste. Item 12, container type, indicates whether the accumulation areas utilize containers and/or tanks. There are separate checklists for containers and tank accumulation areas.

Manifests for 1994 were reviewed. The HWMB is receiving copies of all manifests. Harper Theil is shipping the hazardous wastes in metal, Fiberboard or Plastic drums (Container codes DM and DF).

262.34(c), (a)

Do the manifests show the generator to be a large or a small quantity generator?

The manifests indicate that Harper Theil is a Small quantity generator. In 1994, the Facility generated approximately 1,315 Pounds of hazardous waste.

262 Subparts E & F

Generators whose manifests or annual reports show they export or import hazardous waste must meet the requirements in Subpart E & F of 262.

Harper Theil does not import or export hazardous waste.

Review of DNREC Records (continued)

262.42(b)

Large Quantity Generators must submit an exception report for any shipment not received by the designated TSD within 45 days of initial transport.

All 1994 manifests show that the waste was received within 45 days.

262.41

Large Quantity Generators must submit an annual report by March 1 for the preceding calendar year. The report must include the information required by the form shown in 262 Appendix I.

Harper-Thiel claimed exemption from filing the 1994 Annual Report.

NOTE: 262.44 & 262.40 exempt small quantity generators from annual reports and exception reporting.

HAZARDOUS WASTE CHECKLIST FOR INSPECTION OF LARGE QUANTITY GENERATORSName of Generator: Harper Thiel IncorporatedDate of Inspection: Sept. 28, 1995Inspector: Alan Simpson and Patti Zietlow**On Site Record Review****TRAINING RECORDS**

265.16(d)(1)

Generator must have a list of personnel names and job titles who handle hazardous waste.

Saw list. List is kept in Lee Wayne Anderson's office in Building I.

265.16(c)

Those on the list must be trained annually.

The records indicate that employees receive annual training.

265.16(e) and 265.16(d)(4)

Attendance and course contents records must be kept by the generator for 3 years.

Saw job descriptions, training contents, frequency and techniques and training attendance records for 1984-1995. Training records are maintained in Lee Wayne Anderson's office.

265.16(b)

New personnel who handle hazardous waste must have initial training within 6 months of their starting.

No new employees have been hired.

*Large Quantity Generator On Site Record Review (continued)***CONTINGENCY PLAN**

265.53(a)

Generator must have a copy of his contingency plan at his site.

Saw the Contingency Plan as amended in 1986 and 1994
in Lee Wayne Anderson's office in Building I.

265.52

The contingency plan must contain the following:

- a., b. & f. A description of who does what during a health of environmental emergency caused by the accumulation area including evacuation plans if the type of waste make that necessary.

Yes

- c. Plans for coordinating with outside emergency response teams if the type of waste accumulated requires such coordination.

Yes

- d. The home and office phone numbers of inplant personnel involved in carrying out the plans.

Yes. Includes Pager.

- e. A list of emergency equipment utilized in the plans.

Yes.

265.55

The contingency plan must have an emergency coordinator on standby at all times who has the authority to commit the resources needed to carry out the contingency plan.

Yes. Lee Wayne Anderson carries a
Pager.

Large Quantity Generator On Site Record Review (continued)

265.56(c)

The emergency coordinator must be knowledgeable to assess possible results from a release.

Yes. Emergency Coordinator is Lee Wayne Anderson.

265.56(a)(2), (d)(2), (j) and 265.52(a)

The contingency plan must have a procedure for notifying DNREC and EPA.

Yes

265.37

Information on the waste accumulation area aid plan must be given to local police, fire departments and hospitals.

Harper Thiel has coordinated with the Penny Hill State Police, Station 3 Fire Department

INSPECTION RECORDS

265.174 (for container accumulation)

Generator must have records of weekly inspections of the accumulation area.

No accumulation areas in use. Facility was only operating Satellite accumulation areas on the day of the Assessment.

Large Quantity Generator On Site Record Review (continued)

265.195(a) and (c) (for tank accumulation)

Generator must have records of daily inspections of the above ground portions of the tank system.

Not applicable.

No tanks.

265.195(b) and (c) (for tank accumulation)

Generator must have records of less frequent inspections of cathodic protection system.

Not Applicable.

No tanks.

RECORDKEEPING

262.40(a)

Generator must retain all his manifests and exception reports for 3 years.

Saw manifests For 1984-1995. Manifests are
Stored in Lee Wayne Anderson's office in Building I.

262.40(b)

Generator must retain all his annual reports for 3 years.

Saw annual reports For 1991-1993. Harper-Thiel
Claimed exemption From Filing the 1994 Annual Report.
Annual reports are retained in Building I in Lee Wayne
Anderson's office.

262.40(c)

Generator must retain records of test results utilized to make a hazardous waste determination for 3 years.

Yes. Saw analyses From 1984. Test results
are kept in Lee Wayne Anderson's office.

*Large Quantity Generator On Site Record Review (continued)***FOR TANKS ONLY****265.193(a)(4)**

For obviously existing tanks whose age the company cannot document, record the age of the "facility". The "facility" age determines which tank inspection checklist to use.

Not applicable.

NO Tanks.

265.190(a)

For any age indoor tank with only non-liquid hazardous waste, the generator can chose not to install secondary containment meeting 265.193. Record if this is the case. There is a checklist specifically applicable for this case.

Not applicable.

No tanks.

265.193(a)(5) and 265.191(c)

Generators with wastes just recently (on or after January 12, 1987 and July 14, 1986) reclassified as hazardous wastes, are exempt from certain 265.193 and 265.191 tank requirements. These cases have not been incorporated into the three LOG Accumulator in tanks checklists.

Not applicable.

NO tanks.

*Large Quantity Generator Observations at the Container Accumulation Area**Accumulation Area Identification:*

262.34(a)(3)

There must be on each container of hazardous waste a label with the words "Hazardous Waste".

Not applicable. No accumulation areas in use. Facility was only operating Satellite accumulation areas on day of Compliance Assessment.

262.34(a)(2)

On each container must be an accumulation start date (per 262.34(c)(2) the accumulation start date is the day the container is moved out of the generation area to the waste accumulation area).

262.34(a)

No container can remain onsite for more than 90 days after its accumulation start date unless DNREC has granted a 262.34(b) extension.

265.35

The aisle space must allow unobstructed movement of personnel and emergency equipment.

265.17(a)

Ignitable wastes should not be close to sources of ignition.

LQG Observations at the Container Accumulation Area (continued)

265.17(a)

There should be a "no smoking" sign near ignitable wastes.

265.32

The area must have the following if the type of waste accumulated has the potential to create an emergency:

265.32(a)

An internal communication system if the accumulation area is remote.

265.32(b)

A telephone to summons emergency response teams.

265.32(c) and (d)

Fire extinguishing equipment which is tested and maintained (265.33).

265.171

Containers must be in good condition.

265.173(a)

Containers must be closed.

265.173(b) and 265.31

Containers must be stored and handled in a manner which will not cause the container to spill or leak or some other mishap.

LQG Observations at the Container Accumulation Area (continued)

265.177(a)

Container labels should indicate no incompatible wastes have been placed in the same container.

265.177(c)

Incompatible wastes must be separated by a dike, berm, wall or other device.

265.172

Hazardous wastes must be compatible with their containers.

265.177(b)

Hazardous waste must not be placed in containers previously holding incompatible materials unless the container were cleaned.

265.176

Ignitable or reactive hazardous wastes must be accumulated at least 50 feet from the property line.

Small or Large Quantity Generators Observations at the Satellite Area

*Satellite Area Identification (process generating the waste;
satellite area location):*

HCl Etching Sludge in Building III

262.34(c)(1)

The satellite area must be near the process which generates the hazardous waste.

The area is next to the etching tank.

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

The Satellite area Consisted of 5 gallon Polyethylene Pails. The Pails Contained approximately 30 gallons of etching sludge total.

265.171

Containers must be in good condition.

The Pails Were in good Condition.

265.173(a)

Containers must be closed.

The Pails Were Closed.

265.172

Hazardous wastes must be compatible with their containers.

O.K.

262.34(c)(1)(ii)

The containers of hazardous waste must be labeled as hazardous waste or their contents identified.

The Pails Were labeled.

Small or Large Quantity Generators Observations at the Satellite Area

Satellite Area Identification (process generating the waste;
satellite area location):

Boiler room building - scale from boiler

262.34(c)(1)

The satellite area must be near the process which generates the hazardous waste.

The accumulation of scale was next to boiler that generates the scale.

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

There was much less than 55 gallons of boiler scale. The drum was 1/3 full.

265.171

Containers must be in good condition.

The container was in good condition

265.173(a)

Containers must be closed.

The container was closed.

265.172

Hazardous wastes must be compatible with their containers.

O.K.

262.34(c)(1)(ii)

The containers of hazardous waste must be labeled as hazardous waste or their contents identified.

The container was labeled "hazardous waste"

Small or Large Quantity Generators Observations at the Satellite Area

**Satellite Area Identification (process generating the waste;
satellite area location):**

Chrome contaminated debris in building IV

262.34(c)(1)

The satellite area must be near the process which generates the hazardous waste.

The satellite area is next to the chromium plating tanks which create the debris.

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

There was one drum. The drum was 3/4 Full.

265.171

Containers must be in good condition.

The container was in good condition

265.173(a)

Containers must be closed.

The container was closed

265.172

Hazardous wastes must be compatible with their containers.

Ok.

262.34(c)(1)(ii)

The containers of hazardous waste must be labeled as hazardous waste or their contents identified.

The container was labeled "hazardous waste"

Small or Large Quantity Generators Observations at the Satellite Area

**Satellite Area Identification (process generating the waste;
satellite area location):**

Chrome contaminated debris in building III

262.34(c)(1)

The satellite area must be near the process which generates the hazardous waste.

The satellite area is next to the chromium plating tank which creates the debris.

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

There was one drum. The drum was half full.

265.171

Containers must be in good condition.

The container was in good condition

265.173(a)

Containers must be closed.

The container was closed.

265.172

Hazardous wastes must be compatible with their containers.

OK.

262.34(c)(1)(ii)

The containers of hazardous waste must be labeled as hazardous waste or their contents identified.

The container was labeled "hazardous waste"

Small or Large Quantity Generators Observations at the Satellite Area

Satellite Area Identification (process generating the waste;
satellite area location):

262.34(c)(1) *Boiler room building - sludge from black oxide tank*

The satellite area must be near the process which generates the hazardous waste.

*The satellite area is next to the ferrous blarkening bath
which creates the sludge*

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

There is one 5 gallon ^{pail} ~~bucket~~ of sludge

265.171

Containers must be in good condition.

The container is in good condition

265.173(a)

Containers must be closed.

The container had no lid and was open.

However, the sludge is not volatile and not dusty.

265.172

Hazardous wastes must be compatible with their containers.

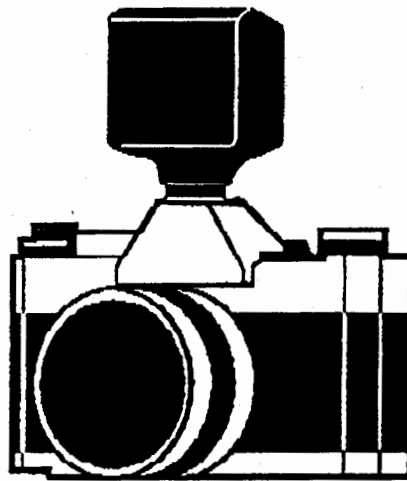
OK.

262.34(c)(1)(ii)

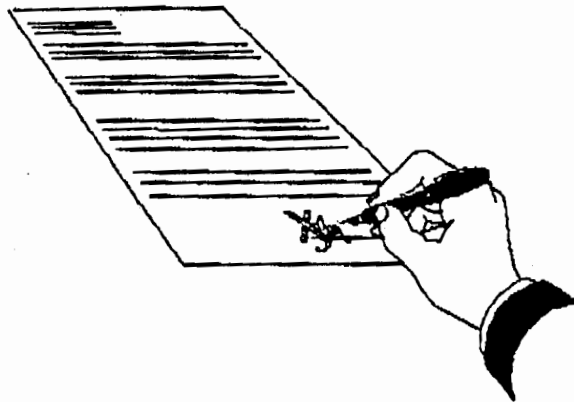
The containers of hazardous waste must be labeled as hazardous waste or their contents identified.

The pail had no label. A July 2, 1980 letter from Heatbath to Harper Thiel states the Pentrate Super Black sludge is 51.4% Sodium carbonate, 12.7% NaOH and 28.8% H₂O. Thus, I suspect the sludge would have a pH above 12.5 and is hazardous.

PHOTOGRAPHS



PUBLICLY OWNED TREATMENT WORKS PERMIT



HAZARDOUS WASTE CHECKLIST FOR TANKS (Subpart J Section 264.190)

Inspection File

2061

Name of Facility: HARPER-THIEL, INC.

Name/No.:

Address: 32nd + Miller St

Reviewer:

Wilmington DE 19802EPA Generator ID Number: DEED002366854

Date Reviewed:

Facility Inspection Representative: WAYNE ANDERSONTitle: PRESIDENT

Form "J"

Telephone Number: 302-764-8945

The questions contained in this checklist apply to owners and operators of permitted facilities that use tanks to treat or store hazardous waste, except as Section 264.1 provides otherwise.

- | | | | |
|---------------|--|--------------------------------------|-------------------------------------|
| 264.17(b) | 1. Are all tanks in good condition; i.e., not showing of leakage, corrosion, or any other deterioration? | Yes | <input checked="" type="radio"/> No |
| 264.192(b) | 2. Are tanks lined or made of materials compatible with hazardous waste or treatment reagents placed into them so that the tank will not rupture, leak, or corrode, or otherwise fail before the end of its intended life? | <input checked="" type="radio"/> Yes | No |
| 264.192(b)(1) | 3. Are tanks with continuous inflow of hazardous wastes equipped with a means to stop this inflow (e.g., waste feed cut-off system or by-pass to a standby tank)? | N/A | Yes No |
| 264.192(b)(2) | 4. Are uncovered tanks operated to ensure a sufficient freeboard to prevent overtopping by wave or wind action or by precipitation? | <input checked="" type="radio"/> Yes | No |
| 26. 34(a)(1) | 5. Are daily inspections conducted for overfilling control equipment (e.g., by-pass systems, waste feed cutoff systems)? | N/A | Yes No |
| 264.194(a)(2) | 6. Is data gathered from monitoring equipment (e.g., pressure and temperature gauges where present) at least once each operating day? | N/A | Yes No |
| 264.194(a)(3) | 7. For uncovered tanks, is the level of waste in the tank checked at least once each operating day? | <input checked="" type="radio"/> Yes | No |
| 264.194(a)(4) | 8. Is (are) the tank (or tanks) inspected weekly to detect corrosion or erosion and leaking of fixtures and seams? | <input checked="" type="radio"/> Yes | No |
| 264.195(a)(5) | 9. Is the area immediately surrounding the tank inspected weekly to detect obvious signs of leakage (e.g., wet spots of dead vegetation)? | <input checked="" type="radio"/> Yes | No |
| 264.195(b) | 10. Is the tank internal inspection being performed as per the approved inspection plan in the facility's permit? | Yes | <input checked="" type="radio"/> No |

264.15(d)	11. Are the results of these inspections recorded in an inspection log or summary?	Yes (1)
264.198	12. Are ignitable or reactive wastes stored in tanks? If so,	Yes
264.198(a)(1)	a) Is the waste treated, rendered, or mixed before or immediately after placement in the tank so that the resulting waste, mixture, or dissolution of materials no longer meets the definition of ignitable or reactive wastes under Parts 261.21 or 261.23 of the RCRA Regs?	Yes
264.198(a)(2)	b) Is the waste stored or treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react?	Yes
264.198(b)	c) Is the owner/operator of a facility which treats or stores ignitable or reactive wastes in covered tanks in compliance with the National Fire Protection Association's (NFPA's) buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the "Flammable and Combustible Code - 1977"?	Yes N

Inspector's Name: ERIC TRINKLE

Title: HYDROLOGIST

Agency: STATE OF DE DNREC

Office Location: DOVER DE

Date of Inspection: 8/29/71

RCRA CHECKLIST FOR INSPECTION OF TSD FACILITIES

RO USE

Name of Facility: HARPER-THIEL

Inspection File

Address: 32nd & Miller Road

No. _____

WILMINGTON, DE 19802

Reviewer _____

EPA TSD ID Number: DED 002366854

Date Reviewed _____

Facility Inspection Representative: LEE W. ANDERSON

Form "B"

Title: OWNER/OPERATORTelephone: 302-764-8945

SITE CHARACTERIZATION (Please denote if the facility presently treats, stores, or disposes of hazardous waste. Also, mark the appropriate sub-category that occurs at the particular facility).

TREATER

STORER

DISPOSER

☐ Filtration
☐ Incineration
☐ Thermal Reduction
☐ Recycling/Recovery
☐ Chem/Phys/Bio Treatments
☐ Waste Oil
☐ Reprocessing
☐ Solvent Recovery
☐ Other _____

☐ Open Pile
☐ Surface Impoundment
☒ Drum
☐ Above ground tank(s)
☐ Below ground tank(s)
☒ Other Two Portable Tanks Identified as Containers in List 1 of Part B.

☐ Landfill operation
☐ Land Treatment
☐ Surface Impoundment
☐ Other _____

INSPECTION PROCEDURE

1. Does the facility generate hazardous waste?

☒ Yes ☐ No

Note: Please complete the generators checklist, Numbers 1 thru 8, if the TSD facility generates hazardous wastes which are disposed off-site.

264.13

2. Has the facility analyzed the hazardous wastes in accordance with the approved waste analysis plan?

☒ Yes ☐ No

- 264.14 3. Does the TSD facility have a 24-hour surveillance system which monitors and controls entry to the active portion of the facility? ☒ Yes ☐ No
- If not
- A. Does the facility have an artificial or natural boundary which surrounds active portions of the facility and, ☒ Yes ☐ No
- B. Does the facility have means to control entry at all times, i.e., gates, attendants, locked entrances, etc.? ☒ Yes ☐ No
- 264.14 4. Does the TSD facility have a restricted access sign posted at each entrance to the active portion of the facility? An example would be: "Danger-Unauthorized Personnel Keep Out!" ☒ Yes ☐ No
- 264.15 5. Does the TSD facility have a written schedule for inspecting all emergency equipment and monitoring equipment, security devices, and operating and structural equipment. Has the owner/operator inspected the facility in accordance with the approved inspection schedule? (AT FACILITY - RECORDS ARE KEPT) ☐ Yes ☒ No
- 264.16(a) 6. Have facility personnel successfully completed a program of classroom training or on-the-job training in hazardous waste management procedures in accordance with the approved personnel training plan? ASK FOR RECORDS. SEPT. 29, 1988, FIVE W/10, 1985 ☒ Yes ☐ No
- 264.16(d) 7. Does the TSD facility maintain a record of job titles for all personnel that are involved with the handling of hazardous waste and the name of the employee filling each job? ☒ Yes ☐ No
- 264.16(d) 8. Does the TSD facility have on record a written position description for each job title noted in Question #7. ☒ Yes ☐ No
- 264.16(d) 9. Does the facility maintain a written description for the type and amount of introductory and continuing training for those employees noted in Question #7? ☒ Yes ☐ No
- 264.32 10. Does the TSD facility have installed the following equipment:
- A. An internal communications or alarm system capable of providing immediate emergency instructions to facility personnel if the hazardous waste storage area is threatened by fire or explosion? ☒ Yes ☐ No

- B. A device at the scene of hazardous waste TSD operations capable of summoning emergency assistance from Police, Fire departments, etc.? ☒ Yes ☐ No
- C. Fire control equipment and an adequate supply of fire fighting water or fire suppression chemicals? ☒ Yes ☐ No
- 264.35 11. Does the TSD facility have adequate aisle space to allow the unobstructed movement of personnel and equipment during emergencies? ☒ Yes ☐ No
- 264.53 12. Does the facility maintain an updated copy of the approved contingency plan at the facility. ^{procedures names changed} ☒ Yes ☐ No
JULY 20, 1985
- 264.55 13. Does the facility have at all times at least one employee either on-call or on the site who is responsible for coordinating all emergency response measures? ☒ Yes ☐ No
14. Does the on-site or off-site facility have a written operating record which contains the following information: ☒ Yes ☐ No
- 264.73(b)(1) A. A description and the quantity of each hazardous waste received/managed at the on-site or off-site treatment, storage or disposal facility. ☒ Yes ☐ No
AT FACILITY
- 264.73(b)(2) B. The location of each hazardous waste managed at the on-site or off-site facility. ☒ Yes ☐ No
AT FACILITY
- 264.73(b)(3) C. Copies of facility specific waste analysis as required by Section 264.193, 264.225, 264.252, 264.273, 264.345, 264.375, and 264.402. Yes ☐ No ☐ N/A
- 264.73(b)(3)& D. Written results of all chemical/Physical analyses of each waste treated, stored, or disposed of at the facility. ☒ Yes ☐ No
264.13
- 264.73(b)(4) E. Summary reports of incidents requiring implementation of the contingency plan. ☒ Yes ☐ No
NOT AT FACILITY
- 264.73(b)(5)& F. Records and results of all inspections (See #5) in an inspection log or summary. ☒ Yes ☐ No
264.15(d)
- 264.73(b)(6) G. Results from groundwater monitoring (For surface impoundments, land treatment or land disposal facilities). Yes ☐ No ☐ N/A

264.73(b)(7) H. Closure cost estimate ☒ Yes No

I. Post Closure cost estimate (land disposal facilities only) Yes No N/A

264.112 15. Does the TSD facility operator maintain an updated copy of the approved closure and post closure plan at the facility? Yes No N/A

264.142(b) 16. Has the owner/operator adjusted the closure/post closure estimate within 30 days after each anniversary of the date on which the first cost estimate was made? ☒ Yes No

17. Does the TSD facility receive waste from off-site generators? Yes ☒ No

If yes, does the operator implement the following procedures:

A. Inspect or analyze incoming wastes and compare with manifest for each shipment received at the facility. Yes No

B. Specify procedures in the waste analysis plan to carry out 17A. Yes No

C. Sign and date all manifest copies? Yes No

D. Return copies of the manifest to the generator and transporter? Yes No

E. Retain copies of all manifests at the facility for three years? Yes No

Question 18 ^{ies} appl to surface impoundments, land treatment and land disposal facilities.

18. The inspector should check for the following conditions at the TSD facility:

A. Open fires Yes No N/A

B. Fumes or gases Yes No

C. Leaks or corrosion in containers or other storage structures Yes No

D. Leachate to receiving streams Yes No

E. Malfunction of equipment	Yes	No
F. Bulging drums	Yes	No
G. Excessive heat generation from storage facilities, lagoons, storage piles, etc.	Yes	No

19. Please provide detailed comments and explanations on specific checklist items or problems encountered during the TSD facility inspection. For instance, industry requests for clarification of specific rules and regulations and their applicability at the facility can be noted below or described in a separate memo attached to the inspector's checklist.

SEE ATTACHED INSPECTION
REPORT.

HAZARDOUS WASTE CHECKLIST FOR USE AND MANAGEMENT OF CONTAINERS

(Subpart I Section 264.170)

Name of Facility: HARPER THIELAddress: 32ND & MILLER ROADWILMINGTON, DE 19802EPA Generator ID Number: DED 002366854Facility Inspection Representative: LEE W. ANDERSONTitle: OWNER/OPERATORTelephone Number: 302-764-8945

Inspection File

Name/No.:

Reviewer:

Date Reviewed:

Form "I"

The questions contained in this checklist apply to owners and operators of all permitted hazardous waste facilities that store containers of hazardous waste, except as Section 264.1 provides otherwise.

- | | | |
|-------------------------------------|--|---|
| 264.171 | 1. Are all containers in good condition; i.e., not showing signs of leakage or corrosion or any other deterioration/deformation? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.172 | 2. Are containers lined or made of materials compatible with hazardous wastes placed into them so that the container will not react or corrode with the hazardous wastes? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.173(a) | 3. Are all containers holding hazardous waste kept closed during storage? | Yes <input checked="" type="radio"/> No |
| 264.174 | 4. Are areas where hazardous waste containers are stored inspected by the owner/operator at least once a week? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.15(b)&(d) | 5. Is an inspection log maintained (see question #5 of TSD checklist)? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| FOR CONTAINERS HAVING FREE LIQUIDS: | | |
| 264.175(b)(1) | 6. Is the containment system underlying the containers free of cracks or gaps and sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.175(b)(2)
&
(c)(1) | 7. Is the base sloped or is the containment system operated to drain and remove liquids resulting from leaks, spills, or precipitation; or are the containers elevated or otherwise protected from contact with accumulated liquids? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.175(b)(4) | 8. Is run-on into the containment system prevented? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| | If not, does the containment system have sufficient excess capacity in addition to 10% of the volume of containers, to contain any run-on which might enter the system? | Yes <input type="radio"/> No <input type="radio"/> |

HAZARDOUS WASTE CHECKLIST FOR USE AND MANAGEMENT OF CONTAINERS (Subpart I Section 264.170)

Page 2

- | | | |
|---|--|---|
| 264.175(b)(5) | 9. Is spilled or leaked waste and accumulated precipitation removed from the sump or collection area in a timely manner to prevent overflow of the collection system? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.176 | 10. Are containers holding ignitable or reactive waste located at least 50 feet from the facility's property line? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 264.177(a) | 11. Are incompatible wastes placed in the same container? (See Appendix 5 for examples.) | Yes <input checked="" type="radio"/> No |
| 264.177(c) | 12. Are storage containers holding hazardous wastes which are incompatible with nearby materials stored in containers, tanks, piles, or surface impoundments separated by dikes, berms, walls, or other devices? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| FOR CONTAINERS NOT HAVING FREE LIQUIDS: | | |
| 264.175(c)(2) | 13. Are containers elevated or otherwise protected from contact with accumulated liquid (precipitation)? | <input checked="" type="radio"/> Yes <input type="radio"/> No |

Inspector's Name: ERIC TRINKLE

Title: HYDROLOGIST

Agency: DE DNREC

Office Location: DOVER, DE

Date: 8/29/91

Small or Large Quantity Generators Observations at the Satellite Area

**Satellite Area Identification (process generating the waste;
satellite area location):**

262.34(c)(1)

The satellite area must be near the process which generates the hazardous waste.

262.34(c)(1)

Each satellite area is limited to 55 gallons of hazardous waste (one quart of P listed wastes).

265.171

Containers must be in good condition.

265.173(a)

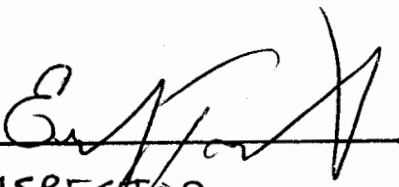
Containers must be closed.

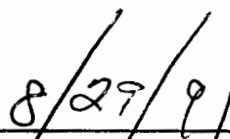
265.172

Hazardous wastes must be compatible with their containers.

262.34(c)(1)(ii)

The containers of hazardous waste must be labeled as hazardous waste or their contents identified.


INSPECTOR


DATE

TSD

HAZARDOUS WASTE CHECKLIST FOR USE AND MANAGEMENT OF CONTAINERS

(Subpart I Section 264.170)

Name of Facility: HARPER Thiel

Address: 32nd and Miller Road

WILMINGTON, DE 19802

EPA Generator ID Number: DED002366854

Facility Inspection Representative: LEE W. ANDERSON

Title: PRESIDENT

Telephone Number: 302-764-8945

Inspection File

Name/No.:

Reviewer:

Date Reviewed:

Form "I"

The questions contained in this checklist apply to owners and operators of all permitted hazardous waste facilities that store containers of hazardous waste, except as Section 264.1 provides otherwise.

264.171	1. Are all containers in good condition; i.e., not showing signs of leakage or corrosion or any other deterioration/deformation?	<input checked="" type="radio"/> Yes	No
264.172	2. Are containers lined or made of materials compatible with hazardous wastes placed into them so that the container will not react or corrode with the hazardous wastes?	<input checked="" type="radio"/> Yes	No
264.173(a)	3. Are all containers holding hazardous waste kept closed during storage?	<input checked="" type="radio"/> Yes	No
264.174	4. Are areas where hazardous waste containers are stored inspected by the owner/operator at least once a week?	<input checked="" type="radio"/> Yes	No
264.15(b)&(d)	5. Is an inspection log maintained (see question #5 of TSD checklist)?	<input checked="" type="radio"/> Yes	No
FOR CONTAINERS HAVING FREE LIQUIDS:			
264.175(b)(1)	6. Is the containment system underlying the containers free of cracks or gaps and sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed?	<input checked="" type="radio"/> Yes	No
264.175(b)(2) & (c)(1)	7. Is the base sloped or is the containment system operated to drain and remove liquids resulting from leaks, spills, or precipitation; or are the containers elevated or otherwise protected from contact with accumulated liquids?	<input checked="" type="radio"/> Yes	No
264.175(b)(4)	8. Is run-on into the containment system prevented?	<input checked="" type="radio"/> Yes	No
	If not, does the containment system have sufficient excess capacity in addition to 10% of the volume of containers, to contain any run-on which might enter the system?	Yes	No

HAZARDOUS WASTE CHECKLIST FOR USE AND MANAGEMENT OF CONTAINERS (Subpart I Section 264.170)

Page 2

- 264.175(b)(5) 9. Is spilled or leaked waste and accumulated precipitation removed from the sump or collection area in a timely manner to prevent overflow of the collection system? **NA** Yes No
- 264.176 10. Are containers holding ignitable or reactive waste located at least 30 feet from the facility's property line? ☒ Yes ☐ No
- 264.177(a) 11. Are incompatible wastes placed in the same container? (See Appendix 5 for examples.) Yes ☐ No ☒
- 264.177(c) 12. Are storage containers holding hazardous wastes which are incompatible with nearby materials stored in containers, tanks, piles, or surface impoundments separated by dikes, berms, walls, or other devices? ☒ Yes ☐ No
- FOR CONTAINERS NOT HAVING FREE LIQUIDS:
- 264.175(c)(2) 13. Are containers elevated or otherwise protected from contact with accumulated liquid (precipitation)? ☒ Yes ☐ No

Inspector's Name: ALAN SIMPSON / ERIC TRINXK
Title: ENGINEER / HYDROLOGIST
Agency: DELAWARE DNREC
Office Location: DOVER, DE 19903
Date: 11/14/89

RCRA CHECKLIST FOR INSPECTION OF TSD FACILITIES

RO USE

Name of Facility: HARPER THIEL

Inspection File

Address: 32nd and Miller Road

No. _____

WILMINGTON, DE 19802

Reviewer _____

EPA TSD ID Number: DES 002366854

Date Reviewed _____

Facility Inspection Representative: LEE W. ANDERSON

Form "B"

Title: PRESIDENTTelephone: 302-764-8945

SITE CHARACTERIZATION (Please denote if the facility presently treats, stores, or disposes of hazardous waste. Also, mark the appropriate sub-category that occurs at the particular facility).

TREATER

STORER

DISPOSER

☐ Filtration
☐ Incineration
☐ Thermal Reduction
☐ Recycling/Recovery
☐ Chem/Phys/Bio Treatments
☐ Waste Oil
☐ Reprocessing
☐ Solvent Recovery
☐ Other _____

☐ Open Pile
☐ Surface Impoundment
☒ Drum
☐ Above ground tank(s)
☐ Below ground tank(s)
☒ Other TWO PLASTIC TANKS DEFINED AS CONTAINERS (LINE 1+2)

☐ Landfill operation
☐ Land Treatment
☐ Surface Impoundment
☐ Other _____

This checklist applies to Areas Designated as Lines 1 to 8 on Annual Report

INSPECTION PROCEDURE

1. Does the facility generate hazardous waste?

☒ Yes ☐ No

Source: 1988 Annual Report
 Note: Please complete the generators checklist, Numbers 1 thru 8, if the TSD facility generates hazardous wastes which are disposed off-site.

264.13

2. Has the facility analyzed the hazardous wastes in accordance with the approved waste analysis plan?

☒ Yes ☐ No

Source: 1988 Annual Report
 Also Part B App.

- 264.14 3. Does the TSD facility have a 24-hour surveillance system which monitors and controls entry to the active portion of the facility? Yes ☒ No
- If not
- A. Does the facility have an artificial or natural boundary which surrounds active portions of the facility and, *However, FENCE IS NOT VERY SECURE - NEEDS UPGRADE* Yes ☒ No
- B. Does the facility have means to control entry at all times, i.e., gates, attendants, locked entrances, etc.? Yes ☒ No
- 264.14 4. Does the TSD facility have a restricted access sign posted at each entrance to the active portion of the facility? An example would be: "Danger-Unauthorized Personnel Keep Out!" Yes ☒ No
- 264.15 5. Does the TSD facility have a written schedule for inspecting all emergency equipment and monitoring equipment, security devices, and operating and structural equipment. Has the owner/operator inspected the facility in accordance with the approved inspection schedule? *(AT FACILITY - RECORDS ARE KEPT)* Yes ☒ No
- 264.16(a) 6. Have facility personnel successfully completed a program of classroom training or on-the-job training in hazardous waste management procedures in accordance with the approved personnel training plan? Yes ☒ No
- 264.16(d) 7. Does the TSD facility maintain a record of job titles for all personnel that are involved with the handling of hazardous waste and the name of the employee filling each job? *PART B HXG* Yes ☒ No
- 264.16(d) 8. Does the TSD facility have on record a written position description for each job title noted in Question #7. *AS ABOVE* Yes ☒ No
- 264.16(d) 9. Does the facility maintain a written description for the type and amount of introductory and continuing training for those employees noted in Question #7? *IN PART B* Yes ☒ No
- 264.32 10. Does the TSD facility have installed the following equipment:
- A. An internal communications or alarm system capable of providing immediate emergency instructions to facility personnel if the hazardous waste storage area is threatened by fire or explosion? Yes ☒ No

*BUT SMALL AREA -
SHORT DISTANCE -
is hearing distance*

- B. A device at the scene of hazardous waste TSD operations capable of summoning emergency assistance from Police, Fire departments, etc.? ☒ Yes ☐ No
- C. Fire control equipment and an adequate supply of fire fighting water or fire suppression chemicals? ☒ Yes ☐ No
- 264.35 11. Does the TSD facility have adequate aisle space to allow the unobstructed movement of personnel and equipment during emergencies? ☒ Yes ☐ No
- 264.53 12. Does the facility maintain an updated copy of the approved contingency plan at the facility. ^{procedures changed} ☒ Yes ☐ No
- 264.55 13. Does the facility have at all times at least one employee either on-call or on the site who is responsible for coordinating all emergency response measures? ☒ Yes ☐ No
14. Does the on-site or off-site facility have a written operating record which contains the following information: ☒ Yes ☐ No
- 264.73(b)(1) A. A description and the quantity of each hazardous waste received/managed at the on-site or off-site treatment, storage or disposal facility. ☒ Yes ☐ No
AT FACILITY
- 264.73(b)(2) B. The location of each hazardous waste managed at the on-site or off-site facility. ☒ Yes ☐ No
AT FACILITY
- 264.73(b)(3) C. Copies of facility specific waste analysis as required by Section ~~264.103, 264.225, 264.252, 264.273, 264.345, 264.375, and 264.402.~~ ☐ Yes ☐ No N/A
- 264.73(b)(3) & D. Written results of all chemical/Physical analyses of each waste treated, stored, or disposed of at the facility. ☒ Yes ☐ No
264.13
- 264.73(b)(4) E. Summary reports of incidents requiring implementation of the contingency plan. ☐ Yes ☐ No N/A
NOT AT FACILITY
- 264.73(b)(5) & F. Records and results of all inspections (See #5) in an inspection log or summary. ☒ Yes ☐ No
- 264.15(d)
- 264.73(b)(6) G. Results from groundwater monitoring (For surface impoundments, land treatment or land disposal facilities). ☐ Yes ☐ No N/A

264.73(b)(7) H. Closure cost estimate ☒ Yes ☐ No

I. Post Closure cost estimate (land disposal facilities only) Yes ☐ No ☒ N/A

264.112 15. Does the TSD facility operator maintain an updated copy of the approved closure and ~~post closure~~ plan at the facility? Yes ☐ No ☐

264.142(b) 16. Has the owner/operator adjusted the closure/post closure estimate within 30 days after each anniversary of the date on which the first cost estimate was made? ☒ Yes ☐ No

17. Does the TSD facility receive waste from off-site generators? Yes ☐ ☒ No

If yes, does the operator implement the following procedures:

A. Inspect or analyze incoming wastes and compare with manifest for each shipment received at the facility. Yes ☐ No ☒ N/A

B. Specify procedures in the waste analysis plan to carry out 17A. Yes ☐ No ☐

C. Sign and date all manifest copies? Yes ☐ No ☐

D. Return copies of the manifest to the generator and transporter? Yes ☐ No ☐

E. Retain copies of all manifests at the facility for three years? Yes ☐ No ☒

Question 18 ^{yes} appl' to surface impoundments, land treatment and land disposal facilities.

18. The inspector should check for the following conditions at the TSD facility:

A. Open fires Yes ☒ No ☐

B. Fumes or gases Yes ☒ No ☐

C. Leaks or corrosion in containers or other storage structures Yes ☒ No ☐

D. Leachate to receiving streams Yes ☒ No ☐

E. Malfunction of equipment

Yes

☒ No

F. Bulging drums

Yes

☒ No

G. Excessive heat generation from storage facilities, lagoons, storage piles, etc.

Yes

☒ No

19.

Please provide detailed comments and explanations on specific checklist items or problems encountered during the TSD facility inspection. For instance, industry requests for clarification of specific rules and regulations and their applicability at the facility can be noted below or described in a separate memo attached to the inspector's checklist.

Fence needs repair (264.14)

SATELLITE CONTAINERS NEED LABELLING (262.34)
(C) (1)

Generator Checklist
EPA Region III

Name of Facility: HARPER-Thiel Inc.
Address of Facility: 32nd & Miller
Wilmington, DE 19802
EPA I.D. Number: DED002366854
Name/Title-Facility Representative: Lee W. Anderson
President
302-764-8945

I. General

1. Provide a brief description of the type of work activity that produces hazardous waste at this generator:

ELECTROPLATING & METAL FINISHING
(ALSO, SEE FMP)

2. Does the generator perform the following on-site:

a. storage (>90 day) of hazardous waste?

☒ Yes

☐ No

b. treatment of hazardous waste?

☒ Yes

☐ No

c. disposal of hazardous waste?

☐ Yes

☒ No

- ★ SHOWN IN Line 9/6 of Annual Report (T-55)
(cyanide oxidized by sodium hypochlorite sol'n)
(spent acid is pH neutralized w/ lime to precipitate out metals). These metal precip. are filtered

261.4

3. Is the facility subject to any exclusions for its hazardous waste?

☒ Yes

No

If yes, list the waste and the basis for exclusion:

261.4(b)(9) Pressure-treated wood Flakes
are occasionally discarded

262.11(c) 4. Does the facility generate any characteristic hazardous waste?

☒ Yes

No

If yes, describe how these characteristics were determined (testing, knowledge of process/materials used).

There was one time testing for lines 1, 2,
3 and 6.

5. Does the facility contemplate any changes in its operation from a hazardous waste generation or management perspective?

☒ Yes

No

If yes, describe: YES: At Line 1, have

replaced a PbCrO₄ plating tank w/
titanium to eliminate Pb

(ie waste min: Lesser generation of
Line 1 wastes)

N/A

II. Manifest System

Complete this section only if facility ships hazardous waste off-site.

1. Identify the name and address of off-site facilities which have received waste from this generator.

Name: _____

Address: _____

I.D. No. _____

Name: _____

Address: _____

I.D. No. _____

Name: _____

Address: _____

I.D. No. _____

- 262.20(a) 2. Is the waste shipped off-site manifested on the Uniform Hazardous Waste Manifest (§262, Appendix)?

Yes No

If no, explain manifest system used: _____

If yes, inspect recent manifests and indicate whether they contain:

a. Name, Mailing address and EPA ID No. of generator? Yes No

b. The name and EPA ID No. of each transporter? Yes No

III. Waste Accumulation

1. Does the generator utilize the following types of waste accumulation:

262.34(c) a. Satellite Accumulation?

Yes

No

b. Less than 90 day storage?

Yes

No

Answer the following questions if the generator has satellite accumulation area(s).

- 262.234(c)(1) 2. Is satellite accumulation area(s) near the point of waste generation?

Yes

No

If no, describe: _____

3. Are there multiple satellite accumulation areas for any one process that generates hazardous waste?

Yes

No

If yes, describe: _____

- 262.34(c)(1) 4. Is the waste stored in containers?

Yes

No

- 265.171 5. Are containers in good condition?

Yes

No

If no, explain: _____

- 262.34(c)(1) 6. Are container(s) marked with the words hazardous waste or the actual contents of the container(s)?

Yes

No

- 265.173(a) 7. Are container(s) kept closed?

Yes

No

- 265.171 8. Are any container(s) leaking?

Yes

No

If yes, describe: _____

262.34(c)(1) 9. Has generator accumulated more than 55 gallons of hazardous waste(s) or more than 1 quart of acutely hazardous waste(s) in a satellite accumulation area?

Yes ☒ No

If yes:

- 262.34(c)(2) a. Are the container(s) holding excess waste dated as to when accumulation began? Yes No
- b. Does the excess waste comply with the less than 90 day storage requirements (40 C.F.R. 262.34(a) within 3 days of the time when accumulation began? Yes No

N O T E: Pennsylvania regulations do not contain an explicit provision for satellite accumulation areas. Generator facilities in Pennsylvania that employ satellite accumulation must not store for more than 90 days, otherwise they are a TSD facility.

Answer the following questions if the generator has less than 90 day storage.

262.34(a)(1) 10. What is the method of waste storage:

Containers?

☒ Yes ☐ No

Tanks?

Yes ☒ No

Other?

Yes ☒ No

If other, describe: _____

262.34(a)(4) 11. Does the facility maintain personnel training and other records required in 40 C.F.R. §265.16?

☒ Yes ☐ No

If no, explain: _____

262.34(a)(4) 12. Does the facility maintain an adequate preparedness and prevention program as required in 40 C.F.R. 265 Subpart C?

☒ Yes ☐ No

If no, explain: _____

262.34(a)(4) 13. Has the facility prepared a Contingency Plan that satisfies the requirements of 40 C.F.R. 265 Subpart D?

☒ Yes ☐ No

If no, explain: _____

Answer the following questions if the generator uses container storage:

262.34(a)(2) 14. Are all container(s) marked with the words "Hazardous Waste" and
(3) the date that waste accumulation in that container begins?

NOT ALL CONTAINERS: SEE SATELLITE
ACCUMULATION list

Yes ☒ No

262.34(a) 15. Based upon accumulation dates, have any container(s) been in storage for more than 90 days?

☒ Yes ☐ No

265.173(a) 16. Are container(s) kept closed?

☒ Yes ☐ No

265.171 17. Are container(s) in good condition:

☒ Yes ☐ No

If no, explain: _____

262.171 18. Are any container(s) leaking?

Yes ☒ No

If yes, describe: _____

265.174 19. Is the storage area(s) inspected at least weekly and is an adequate inspection record/log maintained?

☒ Yes ☐ No

If no, explain: _____

265.177(c)

20. Are incompatible wastes properly separated or protected from one another while in storage?

☒ Yes

No

N/A

If no, explain: _____

265.176

21. Are containers holding ignitable or reactive waste located at least 15 meters (50 feet) from the facility's property line?

☒ Yes

No

N/A

PAGE 9: N/A

IV. Recordkeeping and Reporting

- 262.42(b) 1. Does the generator prepare an Exception Report and submit it to the appropriate agency if a signed copy of the manifest is not received within 45 days of the date the waste was accepted by the initial transporter? (30 days for Maryland facilities) Yes No **N/A**
- 262.42(b) 2. Does the Exception Report include:
- a. Legible copy of the manifest Yes No **N/A**
- b. Cover letter explaining generator's efforts to locate waste and the results of those efforts? Yes No **N/A**
- 262.41(a) 3. If the generator ships any hazardous waste off site, does it prepare an Annual Report and submit it to the appropriate State agency? (quarterly reports for Pennsylvania facilities) ☒ Yes No **N/A**
- 262.41(a) 4. Does the Annual Report include:
- a. Description and quantity of hazardous waste shipped off-site? Yes No **N/A**
- b. Name(s) of TSD facilities receiving waste(s)? Yes No **N/A**
- 262.41(a)(6) c. Efforts undertaken during the year to reduce the volume and toxicity of the hazardous waste? *Source: WASTE MIN. FORM* ☒ Yes No
- 262.41(a)(7) d. Description of the change in volume and toxicity of the waste actually achieved? *See Waste Min Form* ☒ Yes No
- 262.40(a)(b)(c) 5. Does the generator retain copies of signed manifests from designated TSD facilities Annual Reports, Exception Reports and test results for a minimum of 3 years? (does not pertain to Pennsylvania facilities) Yes No **N/A**

N/A

- | | | |
|--|-----|----|
| c. DOT waste description, including proper shipping name, hazardous class and DOT identification number? | Yes | No |
| d. Number and type of containers (if applicable)? | Yes | No |
| e. Quantity of each waste transported? | Yes | No |
| f. Name, EPA ID number and site address of facility designated to receive the waste? | Yes | No |
| g. The following certification (effective Sept. 1, 1985) | Yes | No |

"I Hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packaged, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

Unless I am a small quantity generator who has been exempted by statute or regulation from the duty to make a waste minimization certification under Section 3002(b) of RCRA, I also certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the method of treatment, storage or disposal currently available to me which minimizes the present and future threat to human health and environment."

262.23(a) 3. Did the generator:

- | | | |
|---|-----|----|
| a. Sign and date the manifest? | Yes | No |
| b. Obtain the handwritten signature and date of acceptance from the initial transporter? | Yes | No |
| c. Ensure that return copies of the manifest from the designated TSD facility were properly signed and dated? | Yes | No |
| d. Retain a copy of the signed manifest? | Yes | No |

Generator Checklist - Land Ban Inspections

- 268.30 1. Does the facility generate F - solvent wastes (i.e., F001 - F005)? F-003 ☒ Yes ☐ No
- 268.31 2. Does the facility generate Dioxin wastes (i.e., F020, F021, F022, F023, F026, F027 or F028)? Yes ☒ No
- 268.32 3. Does the facility generate waste on the California List (see definition below)? Yes ☒ No
- Liquid - pH \leq 2 Yes ☒ No
- Liquid - PCB \geq 50 ppm Yes ☒ No
- Liquid/Non-Liquid - HOC >1000 mg/l Yes ☒ No
- Liquid - Cyanides \geq 1000 mg/l Yes ☒ No
- Liquid - Metals as follows Yes ☒ No
- | | | |
|----------|-----|----------|
| Arsenic | $>$ | 500 mg/l |
| Cadmium | $>$ | 100 mg/l |
| Chromium | $>$ | 500 mg/l |
| Lead | $>$ | 500 mg/l |
| Mercury | $>$ | 20 mg/l |
| Nickel | $>$ | 134 mg/l |
| Selenium | $>$ | 100 mg/l |
| Thallium | $>$ | 130 mg/l |
- 268.10 4. Does the facility generate any waste on the first + ~~second~~ ^{third} list? F003 ☒ Yes ☐ No
- If yes, circle the appropriate ones on the F008 attached listing.
- 261.31 5. Is there evidence to indicate that an F001 - F005 solvent waste was misclassified as a listed "U" waste? ☒ Yes ☐ No N/A

If yes, describe

SPENT acetone has previously been classified as a "U-002" waste.
We believe this was not a deliberate misclassification for avoiding
LDR. This waste has never been transported off-site, and has
henceforth been properly classified as "F-003" waste.

6. Does waste analysis data indicate that a soft hammer "F", "K", "P" or "U" listed waste may qualify as a California List waste because of HOC, metals or cyanide content?

Yes ☐ No ☒ N/A

If yes, describe

7. Have any hazardous wastes been reclassified recently from one list code to another thereby impacting its LDR status?

Yes ☐ No ☒

If yes, describe: _____

- 268.41(b) 8. Does the generator mix restricted wastes having different treatment standards for the same constituent(s) prior to shipping off-site?

Yes ☐ No ☒

If yes, was the most stringent treatment standard for the constituent(s) shown on the notification?

Yes ☐ No ☒

9. Is there evidence to indicate that a treatability group (i.e., wastewater (< 1% TOC) or other) of a F solvent waste was incorrectly determined?

Yes ☐ No ☒

If yes, describe

F006*	K073	P084	U077	U248
7	83	87	78	249
8	84	89	86	
9	85	92	89	
19	86	94	103	
K001*	87*	97	105	
4	99*	102	108	
8	100	105	115	
11	101	108	122	
13	102	110	124	
14	103*	115	129	
15*	104*	120	130	
16*	106	122	133	
17		123	134	
18*	P001		137	
19*	4	U007	151	
20*	5	9	154	
21	10	10	155	
22	11	12	157	
24*	12	16	158	
30*	15	18	159	
31	16	19	171	
35	18	22	177	
36	20	29	180	
37*	30	31	185	
44*	36	36	188	
45*	37	37	192	
46	39	41	200	
47*	41	43	209	
48*	48	44	210	
49*	50	46	211	
50*	58	50	219	
57*	59	51	220	
52*	63	53	221	
60	68	61	223	
61	69	63	226	
62*	70	64	227	
69	71	66	228	
71*	81	67	237	
	82	74	238	

* = Not Soft Hammer

10. Is there evidence to indicate that a liquid/non-liquid classification of a California List waste was incorrectly determined (i.e., failure to perform paint filter liquids test)?

Yes ☒ No N/A

If yes, describe

11. Is there evidence to indicate that a wastewater/non-wastewater (>1% TOC and >1% TSS) designation of a first third waste was incorrectly determined?

Yes ☒ No N/A

If yes, describe

- 268.3 12. Is any restricted waste being diluted as a substitute for treatment?

Yes ☒ No

- 268.7(a) 13. Did the generator determine its waste was restricted from land disposal by

- a. testing the waste or an extract of the waste?
b. knowledge of waste and the process from which it was generated?

☒ Yes No

☒ Yes No

If the waste is shipped off-site, answer questions 14-17 **N/A**

- 268.7(a)(1) 14. Does the generator notify the treatment/storage facility of appropriate treatment standards or prohibition levels if waste exceeds these standards/levels? Yes No N/A
- 268.7(a)(2) 15. Does the generator submit a notice and certification to the treatment/disposal facility that the waste can be land disposed if it meets the applicable treatment standards or prohibition levels? Yes No N/A
- 268.7(a)(3) 16. Does the generator submit a notice to the treatment/disposal facility that the restricted waste can be land disposed if subject to a case by case extension, an exemption or a nationwide variance? Yes No N/A
- 268.7(a)(6) 17. Has the generator retained in on-site files
- a. All data used to support the status of the waste (i.e., restricted or non restricted) including knowledge of waste and test results? Yes No
 - b. Copy of waste analysis plan? Yes No N/A
 - c. Copies of all notices and certifications that were sent to treatment/disposal facilities? Yes No N/A

Answer the following question if the generator stores on-site a restricted waste

- 268.50(a)(1) 18. Is the restricted waste stored for accumulation to facilitate proper recovery, treatment or disposal? **Yes** No

Answer the following questions if the generator disposes of its soft hammer waste off-site in a landfill or surface impoundment **N/A**

- 268.8(a)(1) 19. Has the generator made a good faith effort to locate and contract with treatment/recovery facilities that are practically available and will provide the greatest environmental benefit? Yes No

N/A

If yes, is adequate supportive material available?

Yes No

268.8(a)(2)(i) 20. If a generator determines that there is no practically available treatment for its waste, does adequate documentation exist to substantiate this claim?

Yes No N/A

268.8(a)(2) 21. Did the generator submit a demonstration and certification to the Regional Administrator stating that a good faith effort was made to locate a suitable treatment or recovery facility?

Yes No

268.8(a)(2)(ii) 22. Has the generator actually contracted with such a treatment/recovery facility?

Yes No

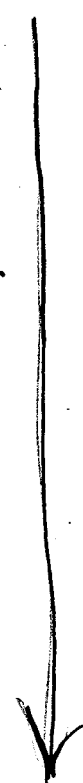
If no, answer the following

268.8(a)(3) a. is a copy of the demonstration and/or certification submitted to the disposal facility receiving the waste?

Yes No

268.8(a)(3) b. does the generator retain copies of these demonstrations and certifications?

Yes No



HAZARDOUS WASTE CHECKLIST FOR USE AND MANAGEMENT OF CONTAINERS

(Subpart I Section 265.170 - "General Operating Requirements")

Name of Facility: Harper-Thiel, Inc.
Address: Thirty-Second Street and Miller Road
Wilmington, Delaware 19802
EPA Generator ID Number: DE0002366854
Facility Inspection Representative: Lee Wayne Anderson
Title: President
Telephone Number: (302) 764 8945

Inspection File

Name/No:

Reviewer:

Date Reviewed:

Form "I"

The questions contained in this checklist apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as Section 265.1 provides otherwise.

- | | | |
|------------|--|---|
| 265.171 | 1. Are all containers in good condition, i.e., not showing signs of leakage or corrosion or any other deterioration/deformation? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 265.171 | 2. Are containers lined or made of materials compatible with hazardous wastes placed into them so that the container will not react or corrode with the hazardous wastes? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 265.173(a) | 3. Are all containers holding hazardous waste kept closed during storage? | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 265.174 | 4. Are areas where hazardous waste containers are stored inspected by the owner/operator at least once a week? <i>Source part B inspection</i> | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 2 15(b)(d) | 5. Is an inspection log maintained? (See question #5 of TSD checklist.) | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 265.176 | 6. Are containers holding ignitable or reactive waste located at least 50 feet from the facility's property line?
<i>Only the spent solvent storage is ignitable or reactive and it is more than 50 feet.</i> | <input checked="" type="radio"/> Yes <input type="radio"/> No |
| 265.177(a) | 7. Are incompatible wastes placed in the same container? (See Appendix 5 for examples.) <i>Source part B application, F-5</i> | Yes <input checked="" type="radio"/> No |
| 265.177(c) | 8. Are storage containers holding hazardous wastes which are incompatible with nearby materials stored in containers, tanks, piles, or surface impoundments separated by dikes, berms, walls, or other devices? | <input checked="" type="radio"/> Yes <input type="radio"/> No |

Inspector's Name: Alan H. Simpson

Title: Environmental Engineer

Agency: State of Delaware, Division of Air & Waste Management

Office location: Dover, De. 19901

Date of Inspection: December 22, 1987

Inspector's Name: _____

Title: _____

Agency: _____

Office Location: _____

Date of Inspection: _____

HAZARDOUS WASTE CHECKLIST FOR CHEMICAL, PHYSICAL & BIOLOGICAL TREATMENT

(Subpart O Part 265.40 - "General Operating Requirements")

Name of Facility: Harper-Thiel, Inc.Address: Thirty - Second Street and Miller Road
Wilmington, Delaware 19802EPA Generator ID Number: DEP002366854Facility Inspection Representative: Lee Wayne AndersonTitle: PresidentTelephone Number: (302) 764 8945

Inspection fi

Name/NO:

Reviewer:

Date Reviewed

Form "Q"

The questions contained in this checklist apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments and land treatment facilities except as Section 265.1 provides otherwise.

Pert. Regs.	Note on treatment - a solution of sodium hypochlorite is added to cyanide bearing wastes in order to oxidize those wastes. This is an infrequent operation and only a few gallons are involved	
Part:		
265.401(b)	1. Are all treatment processes or equipment in good condition, i.e., not showing signs of leakage, corrosion or any other deterioration? <i>Source - on site inspection</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No
265.401(c)	2. Are treatment processes or equipment with continuous inflow of hazardous waste equipped with a means to stop this inflow? (e.g., waste feed cutoff system or bypass system to a standby containment device) <i>There is no continuous inflow - source - on site inspection</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
265.402(1) & (2)	3. Are waste analyses performed or written documentation obtained before placing a substantially different hazardous waste into treatment processes or equipment? <i>The waste is always the same</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
	4. Is this information recorded in the facility's operating record?	<input type="radio"/> Yes <input checked="" type="radio"/> No
265.403(a) (1)	5. Are daily inspections conducted for discharge control equipment (e.g., bypass systems, waste feed cut-off systems, drainage systems and pressure relief systems)? <i>There is no discharge control equipment</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
265.403(a) (2)	6. Is data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day? <i>There is no monitoring equipment</i>	<input type="radio"/> Yes <input checked="" type="radio"/> No
265.403(a) (3)	7. Are construction materials of the treatment process or equipment and immediate surrounding area inspected weekly for signs of leakage, corrosion or any other deterioration? <i>Source - part B application section F-2</i>	<input checked="" type="radio"/> Yes <input type="radio"/> No

8. Are the results of these inspections recorded in an inspection log or summary?

Yes No

9. Are ignitable or reactive wastes placed in a treatment process? If so,

Yes No

265.405
(a)(1)

A. Are the wastes treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive wastes under Section 261.21 or 261.23 of the RCRA regulations?

Yes No

265.405
(a)(1)

B. Are the wastes treated in such a way that they are protected from any material or conditions which may cause the waste to ignite or react?

Yes No

10. Are incompatible wastes kept from being placed in the same treatment process or equipment? *The waste is always the same*

NA
Yes No

Inspector's Name: Alan H. Simpson

Title: Environmental Engineer

Agency: State of Delaware, Division of Air & Waste Management

Office Location: Dover, De. 19901

Date of Inspection: December 22, 1987

Inspector's Name: _____

Title: _____

Agency: _____

Office Location: _____

Date of Inspection: _____

FACILITY: HARPER THIEL INC ID # DED002366854

NAME: DIANE SCHOTT 4/12/92

(Confidential until after permit/order is issued)

WS-1 GROUND WATER ROUTE

A. Is there an observed release? Yes (45) No (0) Possible (10) (IF YES GO TO "C")

B. Route Characteristics

1b. Depth to Aquifer (ft.) 0-20 (6) 21-75 (4) 76-150 (2) 150+ (0)

2b. Net Precipitation (in.) <-10 (0) -10 to +5 (2) > +5 to +15 (4) > +15 (6)

3b. Physical State Stable Solid (0) Unstable Solid (1) Powder, Ash (2) Liquid, Gas Sludge (3)

C. Containment of release Very Good (0) Good (1) Fair (2) Poor (3)

D. Waste Characteristics

1d. Chemical name or waste code number chromium (+6) (Name or Number)

2d. Toxicity/Persistence Value 0 (0) 3 (3) 6 (6) 9 (9) 12 (12) 15 (15) 18 (18)

3d. Quantity known? Yes No
Yes? Enter amount: Cu yds or tons (#)
 Drums (#) (+ 4 = cu yds)
 Total (add above)

No? Is amount likely to be small Yes (1) No
 Is amount likely to be large? Yes (4) No
 Are large storage or disposal areas present? Yes (8) No
 (only one yes allowed)

E. Targets

1e. Groundwater use: Drinking water? Yes (5) No
 Possible drinking water? Yes (4) No
 Agriculture or industrial? Yes (3) No
 Quality impacted? Yes (2) No
 Quality not impacted? Yes (0)* No
 (only one yes allowed)

2e. Distance to intake (miles) <1/2 (4) 1/2 to 1 (3) >1 to 2 (2) >2 to 3 (1) >3 (0)

Note:

* Cannot be used if A = 45

WS-2 SURFACE WATER ROUTE

A. Releases

- 1a. Is there an observed release? Yes (45) No (0) (IF YES, GO TO "C")
- 2a. Is there a permitted outfall? Yes (5) No (0)
- 3a. Have there been permit violations? Yes (5) No (0)

B. Route Characteristics

- 1b. Facility Location No Flood-Prone Area (3) 100-year Flood Plain (2) Other (1)
- 2b. 24-hour Rainfall (in.) < 1.0 (0) 1.0 to 2.0 (1) 2.1 to 3.0 (2) > 3.0 (3)
- 3b. Distance to surface water (miles) ≤ 1/4 (6) > 1/4 to 1 (4) > 1 to 2 (2) > 2 (0)
- 4b. Physical State Stable Solid (0) Unstable Solid (1) Powder, Ash (2) Liquid, Gas Sludge (3)

- C. Containment Very Good (0) Good (1) Fair (2) Poor (3)

D. Waste Characteristics

- 1d. Chemical name or waste code number Chromium (+6)
(Name or Number)
- 2d. Toxicity/Persistence Value 0 (0) 3 (3) 6 (6) 9 (9) 12 (12) 15 (15) 18 (18)
- 3d. Quantity known? Yes No (0)
- Yes? Enter amount: Cu yds or tons (#) / Drums (#) (+ 4 = cu yds)
- Total (add above)
- No? Is amount likely to be small? Yes (1) No
Is amount likely to be large? Yes (4) No
Are large storage or disposal areas present? Yes (8) No
(only one yes allowed)

SURFACE WATER ROUTE - Continued

E. Targets

1e.	Surface Water use:	Drinking water?	Yes (5)	No		
		Possible drinking water?	Yes (4)	No		
		Recreation?	Yes (4)	No		
		Agriculture or industrial?	Yes (3)	No		
		Quality impacted?	Yes (2)	No		
		Quality not impacted				
		but within 3 miles?	Yes (1)	No		
		None within 3 miles?	Yes (0)*	No		
			(only one yes allowed)			
2e.	Distance to intake or contact point (miles)	$< \frac{1}{2}$ (4)	$\frac{1}{2}$ to 1 (3)	> 1 to 2 (2)	> 2 to 3 (1)	$> 3^{**}$ (0)
→ 3e.	Distance to sensitive environment (miles)	$< \frac{1}{2}$ (6)	$\frac{1}{2}$ to 1 (4)	> 1 to 2 (2)	> 2 (0)	

Note:

* Cannot be used if A = 45

** If the distance to a drinking water intake is greater than 10 miles, do not assign drinking water as a surface water use. Assign another applicable use, such as recreation, and its associated distance to intake or contact point.

WS-3 AIR ROUTE

A. Releases

1a. Is there an observed, unpermitted, ongoing release?

Yes
(45)

No
(0)

(IF YES
GO TO
"B")

2a. Does the facility have an air operating permit?

Yes
(5)

No
(0)

3a. Have there been any permit violations or other complaints by residents?

Yes
(10)

No
(0)

(Fire Complaint)

4a. Can contaminants migrate into air?

Yes
(3)

No
(0)

→ 5a. Containment

Very Good
(0)

Good
(1)

Fair
(2)

Poor
(3)

B. Waste Characteristics

1b. Chemical name or waste code number

Name or Number

Chromium (+6)

2b. Toxicity

0
(0)

1
(3)

2
(6)

3
(9)

3b. Quantity known?

Yes

No

Yes? Enter amount:

Cubic yards or tons

(#)

Drums

(#)

(+ 4 = cu. yds.)

Total

(add above)

No?

Is amount likely to be small?

Yes (1)

No

Is amount likely to be large?

Yes (4)

No

Are large storage or disposal areas present?

Yes (8)

No

(only one yes allowed)

C. Targets

1c. Population

Are residences located within four miles?

Yes (25)

No

Are other industries located within four miles?

Yes (20)

No

Are agricultural lands located within four miles?

Yes (15)

No

Any other situation.

Yes (10)

No

(only one yes allowed)

?

→ 2c. Distance to sensitive environments (miles)

< 1/2
(6)

1/2 to 1
(4)

> 1 to 2
(2)

> 2
(0)

WS-4 ON-SITE CONTAMINATION

- A. Access to site
- | | | |
|---------------------|-----------------------|-------------------------|
| <u>Inaccessible</u> | <u>Limited Access</u> | <u>Unlimited Access</u> |
| (0) | (2) | (4) |
- B. Is there observed surface soil contamination?
- | | |
|------------|-----------|
| <u>Yes</u> | <u>No</u> |
| (25) | (0) |
- C. Containment
- | | | | |
|------------------|-------------|-------------|-------------|
| <u>Very Good</u> | <u>Good</u> | <u>Fair</u> | <u>Poor</u> |
| (1) | (2) | (3) | (4) |
- D. Waste characteristics
- Chemical Name or Waste Code Number Chromium (+6)
- Toxicity/Persistence Value
- | | | | |
|----------|----------|----------|----------|
| <u>0</u> | <u>1</u> | <u>2</u> | <u>3</u> |
| (0) | (1) | (2) | (3) |
- E. Targets
- 1e. Distance to residential areas
- | | | | |
|------------|------------------|----------------|-------|
| $\leq 1/4$ | $> 1/4$ to $1/2$ | $> 1/2$ to 1 | > 1 |
| (6) | (4) | (2) | (0) |
- 2e. Is there on-site sensitive environment?
- | | |
|------------|-----------|
| <u>Yes</u> | <u>No</u> |
| (1) | (0) |

CALCULATE ON-SITE SCORE (S_o)

If $A = 0$, then $S_0 = B \times D \times (1e + 2e)/21$

If $A \neq 0$, then $S_0 = A \times (B + C) \times D \times (1e + 2e)/21^{(a)}$

If $B + C > 25$, then $B + C = 25$

(a) The value 21 standardizes the on-site route score to a value between 0 and 100.

FILE COPY

MEMORANDUM

TO: E. Alex Rittberg *EAR 4/12/94*
FROM: Mark A. Davis *MD 4/9/94*
SUBJECT: COMPLIANCE EVALUATION (CE):
Harper-Thiel, Incorporated (HTI)
REFERENCE: DED002366854, File 21
DATE: April 5, 1994

GENERATOR ADDRESS:

Harper-Thiel, Inc.
32nd & Miller Road
Wilmington, DE 19802

COMPANY OFFICIAL:

Lee W. Anderson
President

HWMB REPRESENTATIVES:

Mark Davis

DATE OF INSPECTION:

March 28, 1994

PURPOSE OF INSPECTION:

CE

FACILITY STATUS:

SQG; TSD

PRE-INSPECTION SAFETY PREPARATION

Based on a review of the HWMB files and on experience gained from previous site visits to HTI, the inspectors determined that Level D protection (ie. steel-toed boots, hard-hats and safety glasses) would be adequate under normal operating conditions at the facility.

1

FILE COPY

Page 1 of 19

COMPLIANCE ASSESSMENT REPORT

TO: Alex Rittberg and Karen J'Anthony

FROM: Alan Simpson and Patti Zietlow

SUBJECT: Harper Thiel
EPA ID#DED002366854
File Code 21



DATE: October 16, 1995

GENERAL INFORMATION

Facility Name And Address: Harper Thiel Incorporated
32nd & Miller Road
Wilmington, DE 19802

Facility Representative: Lee W. Anderson
President
(302) 764-8945

Facility Status: In transition from interim status treatment and storage facility to small quantity generator.

Facility Units: 1 Accumulation Area
5 Satellite Accumulation Areas

Inspection Participants: Lee Wayne Anderson-Harper Thiel
Alan Simpson - State of DE DNREC HWMB
Patti Zietlow - State of DE DNREC HWMB

Date Of Inspection: September 28, 1995

Applicable Regulations: 40 CFR Parts 260-272

Purpose Of Inspection: Annual Compliance Assessment (CA)

1.0 PRE-INSPECTION

1.1 Document Review

HWMB personnel reviewed the following documents prior to the September 28, 1995 inspection:

1. Annual Report file.
2. 1994 Manifests.
3. Closure Plan and Closure Report
4. CEI Inspection Report file.
5. Facility Management Plan.
6. Part A and Part B record files.
7. Notice of Violation, Letter of Warning, Memorandum and Correspondence files.
8. State of Delaware Emergency and Hazardous Chemical Inventory Annual Chemical Forms (Tier II).
9. POTW Permit

Air Resources files did not contain any Toxic Release Inventory Reporting Forms for Harper-Thiel. Harper-Thiel claimed exemption from filing the 1994 Annual Report.

1.2 Safety Preparation



Based on prior visits to the facility, the HWMB determined that steel toed boots, safety glasses with side shields and hard hats were appropriate personal protective equipment for the inspection.

2.0 FACILITY BACKGROUND

Harper-Thiel, Incorporated is a small, privately owned electroplating and metal finishing facility that has operated continuously since 1946. Built in the early 1900's, the facility was owned and operated by DuPont prior to purchase by Harper-Thiel in 1946. Harper-Thiel has operated since 1981 as a hazardous waste treatment and storage facility under interim status (EPA 1981). The company attempted to attain permit status but was unable to do so because they could not secure required liability insurance for sudden accidental occurrences. In 1990, Harper-Thiel notified the HWMB that they were initiating RCRA closure activities at their facility. On August 11, 1993, the HWMB approved Harper Thiel's plan to close five hazardous waste storage units authorized to operate under interim status. RCRA closure activities began in December 1993 and were completed in March 1995 with the submission of the Closure Report to the HWMB. The HWMB is currently reviewing the Closure Report. Lee Wayne Anderson is currently president of Harper-Thiel. Harry Thiel, one of

the originally founders of the company, was Lee Wayne Anderson's wife's grandfather.

Harper-Thiel discharges to The City of Wilmington Publicly Owned Treatment Works under Permit #W-86-01. The City requires Harper-Thiel to test at least four days in six months for cadmium, cyanide A and lead and once every six months for total toxic organics .

The Harper-Thiel facility consists of the following buildings:

Building I

Southwest Corner

- Offices.

Northeast Wing

- Shipping and receiving.
- Hazardous waste accumulation area (drum staging area).
- Buffing and grinding.
- HCl chrome stripping.
- Nickel sulfamate plating.
- Acid copper plating.
- Sodium stannate plating.

Northwest Wing

- Lead plating.
- Chemical storage (including chemicals from DuPont era, some chemicals unknown)
- Gold plating.
- Instrument using low level radioactive source.

Northwest Wing Basement

- Gas boiler.
- Metal parts storage.
- Chemical storage (including rusted shut old lead? paint cans, leaking caustic metal cans).
- Asbestos covered wire storage.

Second Floor

- DuPont era records storage.
- Metal parts storage.

Building III

- Chrome plating.
- Bright nickel plating.
- Cupric hydroxide sludge storage.
- Ionsep 1000 catalyte storage.
- HCl etching.
- Satellite accumulation area for H_2SO_4 etching sludge.
- Satellite accumulation area for chrome contaminated debris (gloves).
- Chemical storage.
- Metal contaminated tape storage (from taping parts of item that they don't want plated)

Building IV

- Metal parts storage (northwest end).
- Chrome plating.
- Satellite accumulation area for chrome contaminated debris (gloves).
- Cation/anion exchange column.
- Ionsep 9001 unit.
- Ionsep 9001 unit sludge storage (open plastic pail).

Building V

- Silver cyanide plating.
- Cadmium cyanide plating.
- Copper cyanide plating.
- Copper strike cyanide plating.
- Cyanide destruction.
- Chemical storage.
- Re-sizing of aluminum oxide for re-use in sand blasting.

Building VI

- Machine shop (did NOT see any parts washers or oily rags).
- Chemical storage (including cupric oxide sludge and lead fluoroborate).

Building VII

- Compressors.
- Sand blasting.

Building IX

- Metals parts storage.
- Chemical storage.

Building X

- Chemical storage (northeast end only).

Building XI

- Ionsep research building.

Building XII

- Caustic storage.
- Chrome stripping.

Building XIII

- Picric acid storage (less than 2 pounds).

Building XIV

- Rotary vacuum filter.

Acid House

- Chemical storage.

Boiler Room

- Boiler
- Ferrous blackening.
- Satellite storage area for boiler sludge and ferrous blackening sludge.

Storage Garage

- Metal parts storage (Photo #3).

Figure 1-1 depicts the building locations. The building numbers correspond to those contained in Harper-Thiel's 1994 State of Delaware Emergency and Hazardous Chemical Inventory (Tier II) submittal to DNREC Air Resources. Building numbers are displayed on the sides of the buildings.

3.0 HAZARDOUS WASTE GENERATION

Harper-Thiel generates various hazardous wastes during normal electroplating operations. Hazardous waste is either shipped off site for disposal, treated on site, or stored on site while exploring markets for the waste. The facility shipped 1,315 pounds of hazardous waste off site in 1994.

3.1 Chrome Electroplating

Chrome electroplating is performed in Buildings III and IV (Photo #4). Building III houses one chromium plating bath and Building IV contains six chromium plating baths. The chrome plating baths consist of lead anodes and a solution of chromic acid and sulfuric acid. Wastes typically generated from chrome electroplating include:

- Lead Chromate Sludge

Lead chromate forms on the lead anodes and must be removed. The resulting lead chromate sludge collects in the bottom of the tank. The sludge also contains lesser

amounts of silicates and barium sulfate and trace amounts of antimony. The tank bottom sludges are cleaned out and placed in satellite accumulation storage. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped lead chromate sludge off-site for disposal in the past. Harper-Thiel does not presently accumulate lead chromate sludge.

- **Chrome Contaminated Debris and Gloves**

Harper-Thiel currently collects chrome contaminated debris and gloves in two satellite accumulation areas. The gloves and debris are generated at the place where they are accumulated. The satellite accumulation areas consist of one 55 gallon steel drum located in Building III and one 55 gallon steel drum located in Building IV. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped chrome contaminated debris and gloves off-site for disposal in the past.

- **Spent Chrome Plating Bath**

The chrome plating bath can become spent because of a slow build up of cationic impurities. Harper-Thiel has no records of past or present accumulation of spent chrome plating baths.

- **Spent Chrome Plating Rinse Waters**

Harper-Thiel uses spent chrome plating rinse water as water make up in the chrome plating baths.

POTENTIAL VIOLATIONS:

☺ None.

3.2 Cyanide Plating

All cyanide plating occurs in Building V. Harper-Thiel operates four separate cyanide plating baths: 1) copper cyanide plating; 2) copper strike plating; 3) silver cyanide plating; and 4) cadmium cyanide plating. Carbonate builds up in the cyanide baths requiring either the carbonate to be separated out of the baths or requiring the bath to be replaced. Harper-Thiel removes the carbonate by lowering the bath temperature until the carbonate precipitates out. Harper-Thiel then oxidizes the cyanide laden carbonate in a polyethylene container by adding sodium hypochlorite (Photo #6). The resulting sludge is managed as a hazardous waste because of the metal content. Although Harper-Thiel does not currently accumulate this sludge, a review of Harper-Thiel's inventory storage book during the Compliance

Assessment indicated that the facility shipped the sludge off-site for disposal in the past. The polyethylene container was empty on the day of the Compliance Assessment. Alan and Patti recommend advising Harper-Thiel that the container used to treat the cyanide laden carbonate must be labeled with the accumulation start date and must be emptied every 90 or 180 days when in use and must meet the applicable Part 265 Subpart I standards (use and management of containers). Harper-Thiel should also be advised that if treatment does not occur in the accumulation container, the facility must obtain a permit for the treatment process.

Lee Wayne Anderson stated during the Compliance Assessment that Harper-Thiel manages cyanide contaminated floor sweepings, gloves and debris by segregation and sodium hypochlorite addition. Alan and Patti, however, could find no past or present evidence of cyanide contaminated floor seeping, glove and debris management during the Compliance Assessment.

POTENTIAL VIOLATIONS:

- ⊗ §262.34(a)(1) for exceeding the 90 or 180 day accumulation time limit for the treatment/accumulation container.
- ⊗ §262.34(a)(3) for failure to label treatment/accumulation container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the treatment/accumulation container with the accumulation start date.
- ⊗ §265.173(a) and §265.173(b) for failure to keep the treatment/accumulation container closed and failure to manage the container in a manner in a manner that prevents leaks.
- ⊗ Failure to obtain a permit to treat outside the accumulation container.

3.3 Chrome Stripping by Caustic

Harper-Thiel strips chrome from some metal parts by placing the parts into a caustic solution. The stripping solution eventually becomes spent with a build up of sodium chromate. Harper-Thiel regenerates the sodium chromate into sodium hydroxide and chromic acid ($H_2Cr_2O_7$) using a Ionsep Model 9001 electrodialysis unit. The Ionsep unit is located in Building IV. The sodium hydroxide is re-used for stripping chrome parts. The chromic acid is used for make-up in the chrome electroplating solution. Sludge generated by the Ionsep 9001 unit is stored in an open, 5 gallon, polyethylene pail next to the unit. The pail is left open to facilitate drying of the sludge via evaporation. Harper-Thiel does not know whether or not the sludge is hazardous waste. The pail contained approximately 2 inches of sludge on the day of the Compliance Assessment. The pail was not labeled. Alan and Patti recommend requiring Harper-Thiel to make a hazardous waste determination for the

sludge. If the sludge is hazardous waste, then Harper-Thiel was in violation of the following container storage and management regulations on the day of the Compliance Assessment: §262.34(a)(3); §262.34(a)(2); §265.173(a); §265.173(b).

POTENTIAL VIOLATIONS:

- ⊗ §262.11 for failure to make a hazardous waste determination.
- ⊗ §262.34(a)(3) for failure to label treatment/accumulation container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the treatment/accumulation container with the accumulation start date.
- ⊗ §265.173(a) and §265.173(b) for failure to keep the treatment/accumulation container closed and failure to manage the container in a manner that prevents leaks.

3.4 Chrome Stripping by Hydrochloric Acid

Hydrochloric acid (HCl) chrome stripping is performed in the northeast wing of Building I. Chrome is stripped from certain metal parts by placing the parts into 9N hydrochloric acid. The stripping solution eventually becomes spent with a build up of trivalent chromium. In the past, Harper-Thiel raised the pH of the spent stripping solution to precipitate out chromium hydroxide. The chromium hydroxide precipitate was then shipped off-site for disposal as documented in Harper-Thiel's inventory storage book. Presently, however, Harper-Thiel stores the spent HCl with trivalent chromium in two, 4 foot wide by 12 foot long by 8 foot high metal storage containers located outside between Building XIV and Building I (Figure 1; Photo #5). Container A contained 6 feet of liquid and Container B contained 5 feet of liquid on the day of the Compliance Assessment. The total volume of spent HCL with trivalent chromium stored in the two tanks on the day of the Compliance Assessment was 3,950 gallons. According to Lee Wayne Anderson, Harper-Thiel has been storing the spent HCL with trivalent chromium since 1983.

Lee Wayne Anderson stated during the Compliance Assessment that the spent HCl acid with trivalent chromium is not waste and has several potential uses including the manufacture of iron-chromium redox batteries. The solution is also the subject of "intense research", according to Mr. Anderson. Analysis of the spent HCl acid with trivalent chromium indicated that the solution is composed of 47% water, 27% trivalent chrome, 6% HCl and 20% chloride. Harper-Thiel is storing the spent HCl with trivalent chromium while exploring markets for this solution.

Harper-Thiel has one HCl acid chrome stripping vat in use inside Building I. The 17 foot 5 inch long by 2 foot 4 inch wide by 3 foot 3 inch tall vat contained 990 gallons of HCl

with trivalent chromium on the day of the Compliance Assessment.

Harper-Thiel's storage of the spent HCl containing trivalent chromium constitutes speculative accumulation [DRGHW §261.1(c)(8)] because the material has been stored with a legitimate expectation of eventual recycling, but has never been recycled. The facility's failure to manage the spent HCl acid containing trivalent chromium as hazardous waste is a violation of the following DRGHW: §262.34(a)(3); §262.34(a)(2); §265.201(c).

POTENTIAL VIOLATIONS:

- ⊗ §261.1(c)(8) for speculative accumulation.
- ⊗ §265.201(c) for failure to inspect containers.
- ⊗ §262.34(a)(3) for failure to label the container with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the container with the accumulation start date.

3.5 Copper Stripping by Sulfuric and Chromic Acid

Copper is stripped from some metal parts by placing the parts into a mixture of sulfuric and chromic acid. The stripping solution eventually becomes spent with a build up of divalent copper. Harper-Thiel regenerates the spent stripping solution into cupric hydroxide sludge and a mixture of sulfuric and chromic acids using a Ionsep Model 1000 electrodialysis unit. The sulfuric and chromic acid mixture is re-used for the stripping of copper parts. The cupric hydroxide sludge is stored on-site. According to Lee Wayne Anderson, the sludge can be mixed with sulfuric acid and used as plating feedstock. Harper-Thiel, however, has not used any of the sludge as feedstock to date. Building III contained one 55 gallon drum of cupric hydroxide sludge and Building VI contained eighteen 55 gallon drums of cupric hydroxide sludge on the day of the Compliance Assessment. Because of uncertainty in the written descriptions of certain sludges documented in Harper-Thiel's inventory storage book, it is unclear whether or not this type of waste was shipped off-site for disposal in the past. According to Lee Wayne Anderson, Harper-Thiel has been storing the cupric hydroxide sludge on site since 1982.

Although the cupric hydroxide sludge is not a listed and probably not a characteristic hazardous waste, Alan and Patti recommend that Harper-Thiel make a hazardous waste determination for the sludge. If the sludge is a hazardous waste, then Harper-Thiel's storage of the sludge constitutes speculative accumulation [DRGHW §261.1(c)(8)] because the material has been stored with a legitimate expectation of eventual recycling, but has never been recycled.

POTENTIAL VIOLATIONS:

- ⊗ §261.1(c)(8) for speculative accumulation.
- ⊗ §265.201(c) for failure to inspect containers.
- ⊗ §262.34(a)(3) for failure to label the containers with the words hazardous waste.
- ⊗ § 262.34(a)(2) for failure to label the containers with the accumulation start date.

3.6 Ferrous Blackening

Ferrous blackening is performed in the Boiler Room. Iron based metal parts are immersed in highly caustic Penetrate Super Black® bath. The bath coats the outside of the parts turning the metal black by oxidizing the iron. High pH tank bottom sludges are generated from this process. A July 2, 1980 analysis of the sludge by Heatbath Corporation indicated that the sludge is comprised of 51% sodium carbonate, 12.7% sodium hydroxide, 28.8% water and 0.5% ferric hydroxide. The sludge is stored in a 5 gallon polyethylene pail next to the blackening bath. Lee Wayne Anderson estimates that the bath generates 40 pounds of sludge per year. A review of Harper-Thiel's inventory storage book during the Compliance Assessment indicated that the facility shipped the sludge off-site for disposal in the past.

POTENTIAL VIOLATIONS:

- ☺ None.

3.7 Acetone Cleaning of Metal Parts

Lee Wayne Anderson stated that Harper-Thiel currently uses acetone only as a solvent to wipe metal parts clean. The facility uses 250 gallons of acetone per year. Harper-Thiel manages as hazardous waste only those acetone wipes that appear to contain metals or other contamination when dry.

POTENTIAL VIOLATIONS:

- ⊗ The acetone wipes may be F003 waste.

3.8 Miscellaneous Processes

The following processes are also currently performed at Harper Thiel:

- Nitric acid stripping of lead parts. Bath would be low pH corrosive and build up in lead ions.
- Sulfuric acid stripping of nickel parts. Bath would be low pH corrosive.
- HCl acid stripping of copper and cadmium parts.
- Lead fluoroborate plating. Bath would be low pH corrosive and contain lead ions.
- Tin plating. Bath might be low pH corrosive.
- Acid copper sulfate plating. Bath might be low pH corrosive.
- Nickel plating. Probably doesn't involve hazardous waste.
- Electroless Nickel plating. Probably doesn't involve hazardous waste.
- Citrate gold plating. Might be a cyanide bath.

Due to time constraints during the Compliance Assessment, Alan and Patti did not investigate the above processes well enough to confirm the types of waste streams generated. Lee Wayne Anderson mentioned during the Compliance Assessment that Harper-Thiel has done "virtually no" acid stripping of copper, cadmium, lead and nickel since the Building III fire in 1991.

3.9 Discontinued Processes

Harper-Thiel has discontinued the following processes described in past Compliance Evaluation Reports and the RCRA Facility Assessment (DNREC 1990):

- Spent Acetone Distillation

In the past, Harper-Thiel hired a vendor (Engove) to bring a portable distillation unit to the site to recover spent acetone generated from delacquering metal parts. Sludge from the distillation unit was stored in 5 gallon pails in Building X. The accumulated sludge was shipped off-site for disposal as part of the RCRA Closure activities. Harper-Thiel no longer distills spent acetone. Lee Wayne Anderson stated during the Compliance Assessment that Harper-Thiel currently uses acetone only as a solvent to

wipe metal parts clean (see Section 2.7).

- Cation-Anion Stripping

The RCRA Facility Assessment and past CA Reports describe a cationic/anionic exchange column stripping process used by Harper-Thiel to recover plating bath rinse waters. The process generated metal-contaminated sulfuric acid sludge and sodium chromate sludge. Harper-Thiel stored the sludges on site (Pot S) pending reclamation or reformulation for reuse in the plating process. During the Compliance Assessment, Alan and Patti asked Lee Wayne Anderson how much of the sludges he had stored on site. Mr. Anderson responded that Harper-Thiel never generated or stored the sludges. Harper-Thiel used the cationic/anionic exchange column (located in Building IV) only once to recover plating bath rinse waters as a test run. The test was conducted in 1992. Mr. Anderson said he provided DNREC with information on the cationic/anionic exchange column process for the 1990 RCRA Facility Assessment because he thought at that time that Harper-Thiel would be using the process to recover plating bath rinse waters. Harper-Thiel uses the cation/anion exchange column only to manufacture deionized, distilled water.

4.0 HAZARDOUS WASTE MANAGEMENT UNITS

Harper-Thiel manages hazardous waste in a hazardous waste accumulation area and in satellite accumulation areas. The hazardous waste accumulation area, located in the northeast wing of Building I, was empty on the day of the Compliance Assessment. Harper-Thiel was operating the following satellite areas on the day of the Assessment:

<u>Building</u>	<u>Location</u>	<u>Waste Managed</u>	<u>Container</u>
III	Next to etching tank.	H ₂ SO ₄ etching sludge.	5 gallon polyethylene pails.
III	Next to chrome plating tank.	Chrome contaminated debris.	55 gallon steel drum.
IV	Next to chrome plating tank.	Chrome Contaminated debris.	55 gallon steel drum.
Boiler Room	Next to boiler.	Boiler sludge.	55 gallon steel drum.
Boiler Room	Next to blackening bath.	Ferrous blackening sludge.	5 gallon polyethylene pail.

Harper-Thiel also stores spent HCl acid with trivalent chromium in two metal storage containers located outside between Building XIV and Building I (see Section 2.4 above). Lee Wayne Anderson, however, does not consider the spent HCl acid with trivalent chromium waste.

The total volume of hazardous waste stored on-site on the day of the Compliance Assessment was:

<u>Waste</u>	<u>Amount</u>
H ₂ SO ₄ etching sludge.	30 gallons
Building III Chrome contaminated debris.	27.5 gallons (1/2 of a 55 gallon drum)
Building IV Chrome contaminated debris.	41.25 gallons (3/4 of a 55 gallon drum)
Boiler sludge.	18 gallons (1/3 of a 55 gallon drum)
Ferrous blackening sludge.	5 gallons
*Spent HCl acid with trivalent chromium.	3,950 gallons

TOTAL 4,071.75 gallons

* = Not considered waste by Lee Wayne Anderson



5.0 INSPECTION OBSERVATIONS

5.1 On-Site Paperwork Review

All RCRA related paperwork is stored in Building I in Lee Wayne Anderson's office. Alan and Patti made the following observations during the on-site paperwork review:

Waste Analyses

Harper-Thiel retains waste analyses dating back to 1984.

POTENTIAL VIOLATIONS:

☺ None.

Contingency Plan

The information contained in the Contingency Plan, as amended in 1994, met the regulatory requirements.

POTENTIAL VIOLATIONS:

☺ None.

Manifests, and Annual Reports

Harper-Thiel maintains manifests from 1984 to present. The facility's 1994 manifest file contained the same manifests as the HWMB file. Alan and Patti saw Annual Reports for 1991-1993. The facility claimed exemption from filing the 1994 Annual Report. The HWMB, however, considers Harper-Thiel to be a treatment and storage facility until the HWMB approves the facility's closure report. The regulations require treatment and storage facility's to file an annual report.

POTENTIAL VIOLATIONS:

- ⊗ §262.41(a) for failure to file an annual report.



Land Disposal Restrictions

Land disposal restriction notifications were attached to the 1994 manifests.

POTENTIAL VIOLATIONS:

- ☺ None.

Personnel Training

Harper-Thiel's training records contained the required list of personnel involved in handling hazardous waste, job title descriptions, training course contents, and training dates. The facility maintains training records dating back to 1984. Harper-Thiel has not hired any new employees according to Lee Wayne Anderson.

POTENTIAL VIOLATIONS:

- ☺ None.

5.2 Facility Walk Through

Alan and Patti, accompanied by Lee Wayne Anderson, inspected Buildings I, III, IV, V, VI, VII, IX, X, IX, XI, and XII, the Storage Garage, the Boiler Room, and the numerous containers scattered outdoors over the facility grounds. Alan and Patti made the following observations:

Building I Northwest Wing

Harper-Thiel uses two rooms and a hallway storage cabinet in the northwest wing of Building I to store bottles of chemicals. The chemicals in the rooms are stored on floor to ceiling shelves, in boxes on the floor and in cupboards. Some of the chemicals date back to the early 1900's when the facility was owned by DuPont. The DuPont era chemicals are easily identified by their antique containers. Some of the chemical containers are not labeled. Lee Wayne Anderson does not know what the unlabeled chemicals are. In keeping with the HWMB chemical library policy, Alan and Patti recommend that Harper-Thiel be required to inventory the chemicals.

POTENTIAL VIOLATIONS:

- ⊗ §262.11 for failure to make a hazardous waste determination for the unknown chemicals.

Building I Northwest Wing Basement

Building I's northwest wing basement is also used for chemical storage. The chemicals are stored on shelves and in cupboards. Alan and Patti saw rusted shut old, possibly lead paint cans and leaking metal cans said by Lee Wayne Anderson to contain caustic product (not waste). Despite Harper-Thiel's claim that the paint and caustic are product, the facility is actually managing the paint and caustic as waste for the following reasons:

- The paint is probably past its expiration date and no longer useful as paint.
- Harper-Thiel has allowed the caustic product to leak indicating it has little or no value to the facility.

Alan and Patti recommend advising Harper-Thiel to properly dispose of the paint and caustic.

Building VI

Building IV houses Harper-Thiel's machine shop. Alan and Patti did not see any parts washers or oily rags.

Building X

Building X Areas I and II, closed under Harper-Thiel's Closure Plan in 1994, were vacant except for empty 5 gallon polyethylene storage pails stored in Area II (Photo

#2).

Outdoor Containers

The two pots (Pot R and Pot L) closed under Harper-Thiel's Closure Plan in 1994 were empty. The facility plans to re-use these pots once the Closure Report is approved by the HWMB. The secondary containment steel drip pan from Building IX (Closure Plan Area V) decontaminated during closure activities was located outside next to Building X (Photo #1). The pan contained approximately four inches of rainwater.

6.0 RECOMMENDATIONS

Alan and Patti recommend that DNREC issue a Letter of Warning to Harper-Thiel for the following identified violation:

1. Harper-Thiel has not determined if certain materials which it handles are hazardous wastes. Materials for which Harper-Thiel has not made a hazardous waste determination include: 1) the Ionsep 9001 sludge; 2) the unidentified chemicals stored on site; and 3) cupric hydroxide sludge. The Branch considers unidentified chemicals to be waste because unidentified chemicals can't be used as product if facility doesn't know what they are. Failure to make a hazardous waste determination is a violation of DRGHW §262.11 which states:

A person who generates a solid waste, as defined in Section 261.2, must determine if that waste is a hazardous waste.

A second Letter of Warning may be sent at a later date if warranted by the hazardous waste determinations.

Alan and Patti, after consulting with Karen J'Anthony and Alex Rittberg, also recommend that Harper-Thiel be sent a separate letter addressing activities which the Branch has had knowledge of but has not cited the facility for during past Compliance Assessments. The letter would also serve to educate Harper-Thiel on regulatory requirements once Harper-Thiel's transition from an interim status treatment and storage facility to a small quantity generator is complete. The letter should contain the following requirements:

1. The HWMB requires Harper-Thiel to properly dispose of the spent HCl acid with trivalent chromium as hazardous waste. Harper-Thiel has been storing, since 1983, spent HCl acid containing trivalent chromium while exploring markets for the solution. The spent HCl acid containing trivalent chromium is generated by the chrome stripping by hydrochloric acid process. The HWMB considers this storage of

the spent HCl acid containing trivalent chromium to constitute speculative accumulation [DRGHW §261.1(c)(8)]. Speculative accumulation occurs when a material is stored with a legitimate expectation of eventual recycling, but has never been recycled. The spent HCl acid containing trivalent chromium is therefore considered a hazardous waste and must be managed in accordance with the DRGHW. Failure to manage the spent HCl acid containing trivalent chromium as hazardous waste is a violation of the following DRGHW:



- DRGHW §262.34(a)(3) which states *"While being accumulated on site, each container and tank is labeled or clearly marked with the words 'Hazardous Waste'".*
- DRGHW §262.34(a)(2) which states *"The date upon which accumulation begins is clearly marked and visible for inspection on each container."*
- DRGHW §265.201(c) which states *"The owner or operator must inspect areas where containers are stored at least weekly looking for leaks and for deterioration caused by corrosion or other factors."*

Once Harper-Thiel's transition from an interim status treatment and storage facility to a small quantity generator is complete, the spent HCl acid with trivalent chromium cannot remain on-site for more than 180 days (270 days if the waste must be shipped over 200 miles away for disposal) without obtaining a permit.

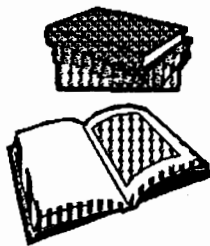
2. The HWMB requires Harper-Thiel to inventory all chemicals stored on site, especially those housed in the two chemical storage rooms and hallway storage cabinet in the northwest wing of Building I. The inventory should note the age and expiration dates of the chemicals.
3. Harper-Thiel must submit an Annual Hazardous Waste Report for 1994. The U.S. Environmental Protection Agency and the HWMB consider Harper-Thiel to be a treatment and storage facility until the HWMB issues a letter approving Harper-Thiel's closure report. In addition, the amount of hazardous waste stored on-site places Harper-Thiel into the large quantity generator category. Treatment and storage facilities and large quantity generators are required to file an Annual Hazardous Waste Report.
4. Harper-Thiel must dispose of the rusted shut old, possibly lead paint cans and leaking metal cans containing caustic present in Building I's basement as hazardous waste. Despite Harper-Thiel's claim that the paint and caustic are product, the facility is actually managing the paint and caustic as waste for the following reasons:



- The paint is probably past its expiration date and no longer useful as paint.
- Harper-Thiel has allowed the caustic product to leak indicating it has little or no value to the facility.

The HWMB should advise Harper-Thiel of the following:

1. Neutralizing spent acid and caustic containing metals at or above TCLP maximum concentrations constitutes treatment beyond elementary neutralization and requires a permit. The maximum TCLP concentrations are found in the DRGHW in section 261.24.
2. Once DNREC approves Harper-Thiel's Closure Report, Harper-Thiel must file a new Notification of Hazardous Waste Activity form documenting Harper-Thiel's change in status from a treatment and storage facility to a small quantity generator.
3. If Harper-Thiel wants to be considered a small quantity generator, the facility cannot store over 13,200 pounds or 1,595 gallons of hazardous waste on site without a permit. On the day of the Compliance Assessment, Harper-Thiel had 4,071.75 gallons of waste stored on site, including the spent HCl acid with trivalent chromium.
4. The container used to treat cyanide laden carbonate must be labeled with the accumulation start date and the words "Hazardous Waste" and must be emptied every 90 or 180 days when in use. The container must meet the applicable Part 265 Subpart I standards (Use and Management of Containers) including keeping the container closed and managing the container in a manner that prevents leaks. If treatment of the cyanide laden carbonate does not occur in the accumulation container, the facility must obtain a permit for the treatment process.
5. Harper-Thiel must submit an Annual Hazardous Waste Report for 1995 because the amount of waste stored on site in 1995 makes Harper-Thiel a large quantity generator. Large quantity generators are required to file an Annual Hazardous Waste Report.
6. The acetone wipes used to wipe metal parts clean may be F003 waste.



REFERENCES

1990. DNREC. RCRA Facility Assessment of the Harper-Thiel, Incorporated Electroplating Facility Wilmington, Delaware. Submitted to the U.U. EPA Region III. December 14, 1990.
1981. U.S. EPA. Letter from EPA Region III to Lee Anderson. (In HWMB Part A file).

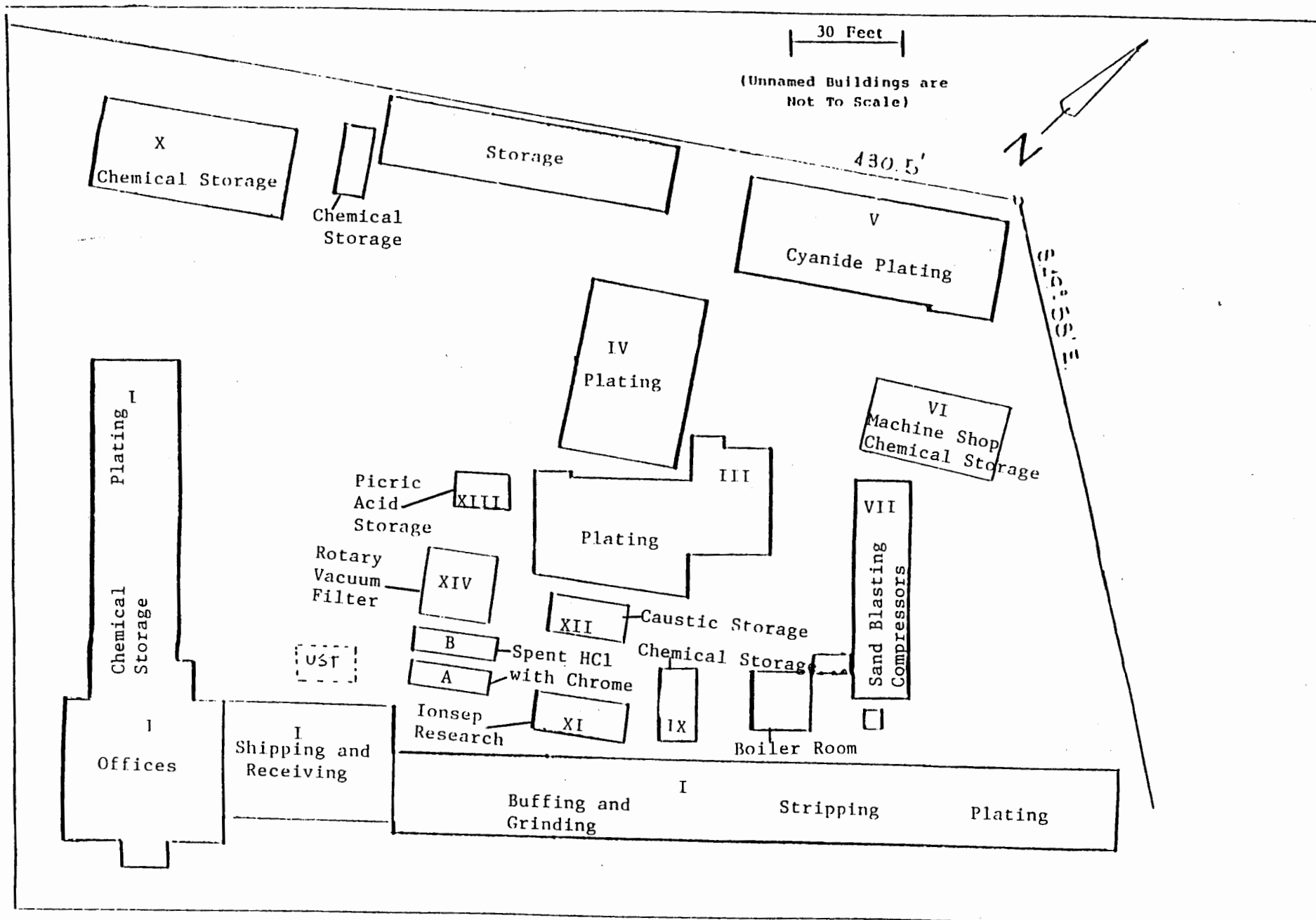
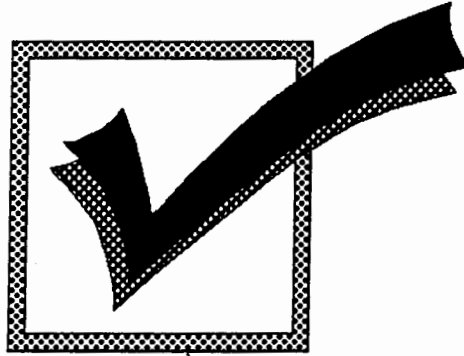


Figure 1 Facility Layout

CHECKLISTS



CHECKLIST FOR OVERVIEW OF HAZARDOUS WASTE INSPECTION

Name of Facility: Harper Theil Incorporated
Address: 32nd and Miller Road
Wilmington, DE 19802
EPA Generator ID Number: DED002366854
Date of Inspection: September 28, 1995
Inspector: Alan Simpson and Patti Zetlow
Facility Inspection Representative: Lee Wayne Anderson
Title: President
Telephone Number: (302) 764-8945

Review of DNREC Records

262.20(a); 262.44 & 262.40(a)

Large and small quantity generators must fill out a manifest to include the information required by the form shown in Appendix II for each shipment of hazardous waste. Item 12, container type, indicates whether the accumulation areas utilize containers and/or tanks. There are separate checklists for containers and tank accumulation areas.

Manifests for 1994 were reviewed. The HWMB is receiving copies of all manifests. Harper Theil is shipping the hazardous wastes in metal, fiberboard or plastic drums (Container Codes DM and DF).

262.34(c), (a)

Do the manifests show the generator to be a large or a small quantity generator?

The manifests indicate that Harper Theil is a small quantity generator. In 1994, the facility generated approximately 1,315 pounds of hazardous waste.

262 Subparts E & F

Generators whose manifests or annual reports show they export or import hazardous waste must meet the requirements in Subpart E & F of 262.

Harper Theil does not import or export hazardous waste.

Review of DNREC Records (continued)

262.42(b)

Large Quantity Generators must submit an exception report for any shipment not received by the designated TSD within 45 days of initial transport.

All 1994 manifests show that the waste was received within 45 days.

262.41

Large Quantity Generators must submit an annual report by March 1 for the preceding calendar year. The report must include the information required by the form shown in 262 Appendix I.

Harper-Thiel claimed exemption from filing the 1994 Annual Report.

NOTE: 262.44 & 262.40 exempt small quantity generators from annual reports and exception reporting.

FILE COPY

COMPLIANCE ASSESSMENT REPORT

TO: Alex Rittberg and Karen J'Anthony

FROM: Bob Palmer and Patti Zietlow

SUBJECT: Harper Thiel
EPA ID#DED002366854
File Code 21

DATE: September 20, 1996

GENERAL INFORMATION

Facility Name And Address:	Harper Thiel Incorporated 32nd & Miller Road Wilmington, DE 19802
Facility Representative:	Lee W. Anderson President (302) 764-8945
Facility Status:	In transition from interim status treatment and storage facility to small quantity generator.
Facility Units:	1 Accumulation Area 6 Satellite Accumulation Areas
Inspection Participants:	Lee Wayne Anderson-Harper Thiel Bob Palmer - State of DE DNREC HWMB Patti Zietlow - State of DE DNREC HWMB
Date Of Inspection:	September 17, 1996
Applicable Regulations:	40 CFR Parts 260-272
Purpose Of Inspection:	Annual Compliance Assessment (CA)

1.0 PRE-INSPECTION

1.1 Document Review

HWMB personnel reviewed the following documents prior to the September 17, 1996 inspection:

1. Annual Report file.
2. 1995 Manifests.
3. Closure Plan and Closure Report
4. CEI Inspection Report file.
5. Facility Management Plan.
6. Part A and Part B record files.
7. Notice of Violation, Letter of Warning, Memorandum and Correspondence files.
8. State of Delaware Emergency and Hazardous Chemical Inventory Annual Chemical Forms (Tier II).
9. POTW Permit

Air Resources files did not contain any Toxic Release Inventory Reporting Forms for Harper-Thiel.

1.2 Safety Preparation



Based on prior visits to the facility, the HWMB determined that steel toed boots, safety glasses with side shields and hard hats were appropriate personal protective equipment for the inspection.

2.0 FACILITY BACKGROUND

Harper-Thiel, Incorporated is a small, privately owned electroplating and metal finishing facility that has operated continuously since 1946. Built in the early 1900's, the facility was owned and operated by DuPont prior to purchase by Harper-Thiel in 1946. Harper-Thiel has operated since 1981 as a hazardous waste treatment and storage facility under interim status (EPA 1981). The company attempted to attain permit status but was unable to do so because they could not secure required liability insurance for sudden accidental occurrences. In 1990, Harper-Thiel notified the HWMB that they were initiating RCRA closure activities at their facility. On August 11, 1993, the HWMB approved Harper Thiel's plan to close five hazardous waste storage units authorized to operate under interim status. RCRA closure activities began in December 1993 and were completed in March 1995 with the submission of the Closure Report to the HWMB. The HWMB is currently reviewing the Closure Report. Lee Wayne Anderson is currently president of Harper-Thiel. Harry Thiel, one of the originally founders of the company, was Lee Wayne Anderson's wife's grandfather.

Harper-Thiel discharges to The City of Wilmington Publicly Owned Treatment Works under Permit #W-86-01. The City requires Harper-Thiel to test the discharge water at least four days in six months for cadmium, cyanide A and lead and once every six months for total toxic organics .

The Harper-Thiel facility consists of the buildings depicted in Figure 1-1. The building numbers correspond to those contained in Harper-Thiel's State of Delaware Emergency and Hazardous Chemical Inventory (Tier II) submittal to DNREC Air Resources. Building numbers are displayed on the sides of the buildings.

3.0 HAZARDOUS WASTE GENERATION

Harper-Thiel generates various hazardous wastes during normal electroplating operations. Hazardous waste is either shipped off site for disposal or treated on site. The facility shipped 32,475.7 pounds of hazardous waste off site in 1995.

3.1 Chrome Electroplating

Chrome electroplating is performed in Buildings III and IV. Building III houses one chromium plating bath and Building IV contains six chromium plating baths. The chrome plating baths consist of lead anodes and a solution of chromic acid and sulfuric acid. Wastes typically generated from chrome electroplating include:

Lead Chromate Sludge

Lead chromate forms on the lead anodes and must be removed. The resulting lead chromate sludge collects in the bottom of the tank. The sludge also contains lesser amounts of silicates and barium sulfate and trace amounts of antimony. The tank bottom sludges are cleaned out and placed in satellite accumulation storage. The facility shipped lead chromate sludge off-site for disposal in the past. Harper-Thiel does not presently accumulate lead chromate sludge.

Chrome Contaminated Debris and Gloves

Harper-Thiel currently collects chrome contaminated debris and gloves in two satellite accumulation areas. The gloves and debris are generated at the place where they are accumulated. The satellite accumulation areas consist of one 30 gallon drum located in Building III and one 55 gallon steel drum located in Building IV.

Spent Chrome Plating Bath

The chrome plating bath can become spent because of a slow build up of cationic impurities. Harper-Thiel has no records of past or present accumulation of spent chrome plating baths.

Spent Chrome Plating Rinse Waters

Harper-Thiel uses spent chrome plating rinse water as water make up in the chrome plating baths.

3.2 Cyanide Plating

All cyanide plating occurs in Building V. Harper-Thiel operates four separate cyanide plating baths: 1) copper cyanide plating; 2) copper strike plating; 3) silver cyanide plating; and 4) cadmium cyanide plating. Carbonate builds up in the cyanide baths requiring either the carbonate to be separated out of the baths or requiring the bath to be replaced. Harper-Thiel removes the carbonate by lowering the bath temperature until the carbonate precipitates out. Harper-Thiel then oxidizes the cyanide laden carbonate in a 30 gallon drum by adding sodium hypochlorite. The resulting sludge is managed as a hazardous waste because of the metal content. The drum was empty on the day of the Compliance Assessment, but labeled to accept hazardous waste. The container had a label to record the accumulation start date and a hazardous waste label. Harper-Thiel manages cyanide contaminated floor sweepings, gloves and debris by segregation and sodium hypochlorite addition.

3.3 Chrome Stripping by Caustic

Harper-Thiel strips chrome from some metal parts by placing the parts into a caustic solution. The stripping solution eventually becomes spent with a build up of sodium chromate. Harper-Thiel regenerates the sodium chromate into sodium hydroxide and chromic acid ($\text{H}_2\text{Cr}_2\text{O}_7$) using a Ionsep Model 9001 electrodialysis unit. The Ionsep unit is located in Building IV. The sodium hydroxide is re-used for stripping chrome parts. The chromic acid is used for make-up in the chrome electroplating solution. Sludge generated by the Ionsep 9001 unit is stored next to the unit. Sampling of the sludge in January 1996 for hazardous waste determination purposes indicated that the sludge contained 2,260 ppm hexavalent chrome.

3.4 Chrome Stripping by Hydrochloric Acid

Hydrochloric acid (HCl) chrome stripping is performed in the northeast wing of Building I. Chrome is stripped from certain metal parts by placing the parts into 9N hydrochloric acid. The stripping solution eventually becomes spent with a build up of trivalent chromium. In the past, Harper Thiel stored the spent HCl containing trivalent chrome on-site while exploring markets for the solution. On February 15, 1996, the facility disposed of the stored acid as hazardous waste.

3.5 Copper Stripping by Sulfuric and Chromic Acid

Copper is stripped from some metal parts by placing the parts into a mixture of sulfuric and chromic acid. The stripping solution eventually becomes spent with a build up of divalent copper. Harper-Thiel regenerates the spent stripping solution into cupric hydroxide sludge and

a mixture of sulfuric and chromic acids using a Ionsep Model 1000 electrodialysis unit. The sulfuric and chromic acid mixture is re-used for the stripping of copper parts. The cupric hydroxide sludge is stored on-site. According to Lee Wayne Anderson, the sludge can be mixed with sulfuric acid and used as plating feedstock. Harper-Thiel, however, has not used any of the sludge as feedstock to date. Harper-Thiel has been storing the cupric hydroxide sludge on site since 1982. Sampling of the sludge in January 1996 for hazardous waste determination purposes indicated that the sludge contained less than 24 ppm trivalent chrome.

3.6 Ferrous Blackening

Ferrous blackening is performed in the Boiler Room. Iron based metal parts are immersed in highly caustic Penetrate Super Black® bath. The bath coats the outside of the parts turning the metal black by oxidizing the iron. High pH tank bottom sludges are generated from this process. A July 2, 1980 analysis of the sludge by Heatbath Corporation indicated that the sludge is comprised of 51% sodium carbonate, 12.7% sodium hydroxide, 28.8% water and 0.5% ferric hydroxide. The sludge is stored in a 5 gallon polyethylene pail next to the blackening bath. Lee Wayne Anderson estimates that the bath generates 40 pounds of sludge per year. The facility shipped the sludge off-site for disposal in the past.

3.7 Acetone Cleaning of Metal Parts

Lee Wayne Anderson stated that Harper-Thiel currently uses acetone only as a solvent to wipe metal parts clean. The facility uses 250 gallons of acetone per year. Harper-Thiel accumulates the wipes in a 30 gallon polyethylene drum. The wipes are characterized for disposal when the drum is full.

3.8 Miscellaneous Processes

The following processes are also currently performed at Harper Thiel:

Nitric acid stripping of lead parts.	Sulfuric acid stripping of nickel parts.
HCl acid stripping of copper and cadmium parts.	Lead fluoroborate plating.
Tin plating.	Acid copper sulfate plating.
Nickel plating.	Electroless Nickel plating.
Citrate gold plating.	

4.0 HAZARDOUS WASTE MANAGEMENT UNITS



Harper-Thiel manages hazardous waste in one hazardous waste accumulation area and in satellite accumulation areas. The hazardous waste accumulation area, located in the northeast wing of Building I, contained one, 30 gallon drum of chrome contaminated debris on the day of the Compliance Assessment. Mr. Anderson inspects the Building I hazardous waste accumulation area at least once per week. Harper-Thiel was operating the following satellite areas on the day of the Assessment:

Building	Location	Waste Managed	Container
III	Next to etching tank.	H ₂ SO ₄ etching sludge.	5 gallon polyethylene pails.
III	Next to chrome plating tank.	Chrome contaminated debris.	30 gallon drum.
IV	Next to chrome plating tank.	Chrome Contaminated debris.	55 gallon steel drum.
V	Southwest corner of building.	Cyanide laden carbonate and debris.	30 gallon drum.
Boiler Room	Next to boiler.	Boiler sludge.	55 gallon steel drum.
Boiler Room	Next to blackening bath.	Ferrous blackening sludge.	5 gallon polyethylene pail.

5.0 INSPECTION OBSERVATIONS

5.1 On-Site Paperwork Review

All RCRA related paperwork is stored in Building I in Lee Wayne Anderson's office. Bob and Patti made the following observations during the on-site paperwork review:

Waste Analyses

Harper-Thiel retains waste analyses dating back to 1984.



Contingency Plan

The information contained in the Contingency Plan, as amended in 1994, met the regulatory requirements.

Manifests, and Annual Reports

Harper-Thiel maintains manifests from 1984 to present. The facility's 1995 manifest file contained the same manifests as the HWMB file. Bob and Patti saw Annual Reports for 1991-1994.

Land Disposal Restrictions

Land disposal restriction notifications were attached to the 1995 manifests.

Personnel Training

Harper-Thiel's training records contained the required list of personnel involved in handling hazardous waste, job title descriptions, training course contents, and training dates. The facility maintains training records dating back to 1984. Harper-Thiel has not hired any new employees according to Lee Wayne Anderson. Training was last conducted in February 1995 by Mr. Anderson. Only Mr. Anderson and Joe Cannon handle hazardous waste.

5.2 Facility Walk Through

Bob and Patti, accompanied by Lee Wayne Anderson, inspected Buildings I, III, IV, V, VI, VII, IX, X, IX, XI, and XII, the Storage Garage, the Boiler Room, and the numerous containers scattered outdoors over the facility grounds. Bob and Patti made the following observations:

Building I Northwest Wing

Harper-Thiel uses two rooms and a hallway storage cabinet in the northwest wing of Building I to store bottles of chemicals. The chemicals in the rooms are stored on floor to ceiling shelves, in boxes on the floor and in cupboards. Some of the chemicals date back to the early 1900's when the facility was owned by DuPont. The DuPont era chemicals are easily identified by their antique containers. Some of the chemical containers are not labeled. Lee Wayne Anderson is attempting to identify all the unlabeled chemicals, as required in the December 6, 1995 Notice of Violation. He was able to identify some of the chemicals with partial labels by matching inventory numbers to numbers listed in a DuPont era inventory book. Mr. Anderson also tested some of the unknown chemicals for the presence of cyanide. He requested that the HWMB grant him an additional 90 days to complete identification of the unknowns. Mr. Anderson completed a written inventory of all the chemicals stored on site. He will provide a copy of the inventory to the HWMB once identification of the unknown chemicals is completed.

Building I Northwest Wing Basement

Building I's northwest wing basement is also used for chemical storage. The chemicals are stored on shelves and in cupboards.

Building VI

Building IV houses Harper-Thiel's machine shop. Bob and Patti did not see any parts washers or oily rags.

Building X

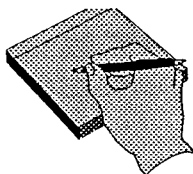
Building X Areas I and II, closed under Harper-Thiel's Closure Plan in 1994, were vacant except for empty 5 gallon polyethylene storage pails stored in Area II.

Outdoor Containers

The two pots (Pot R and Pot L) closed under Harper-Thiel's Closure Plan in 1994 were empty. The facility plans to re-use these pots once the Closure Report is approved by the HWMB. The secondary containment steel drip pan from Building IX (Closure Plan Area V) decontaminated during closure activities was located outside next to Building X.

6.0 RECOMMENDATIONS

Bob and Patti recommend that DNREC issue a Letter of Compliance to Harper-Thiel.



MEMORANDUM

FILE COPY

TO: Alex Rittberg

FROM: Patti Zietlow

DATE: July 31, 1996

SUBJECT: Harper Thiel
EPA ID# DED002366854
Compliance Assessment Follow Up Visit

FILE CODE: 19

On July 26, 1996, Bob Palmer and I conducted a site visit to evaluate Harper Thiel's compliance with the December 6, 1995 Notice of Violation (NOV). We met with Harper Thiel's president, Lee Wayne Anderson. Bob and I found that while Harper Thiel has made progress toward compiling with the NOV, the facility is not yet in full compliance. The facility has completed the following tasks:

1. Made a hazardous waste determination for the Ionsep 9001 sludge and the cupric hydroxide sludge. The sludge contained 2,260 ppm hexavalent chrome.
2. Disposed of the paint cans and leaking metal cans containing caustic (Connecticut Manifest #CTF0397237 dated 3-26-96).
3. Disposed of the spent hydrochloric acid containing trivalent chrome (Connecticut Manifest #CTF0397248 dated 2-15-96). Wayne had to take out an \$11,000 loan to pay for disposal of the acid.
4. Completed an inventory of the chemicals stored on site. Wayne has not been able to find expiration dates for the chemicals. He suspects that the only chemicals that would "go bad" are the hydrolizers. Wayne also does not know the exact age of the chemicals. Harper Thiel has accumulated its chemical inventory over the life of the facility.
5. Submitted an Annual Hazardous Waste Report for 1994. The Branch received the report on January 12, 1996.

Harper Thiel still has not made a hazardous waste determination for all of the unidentified chemicals stored on site. Wayne explained that he is attempting to identify the chemicals himself because Harper Thiel cannot afford to send the unknowns to a lab for identification. The \$11,000 loan for disposal of the spent HCL, big winter bills and a slow

down in work have crippled the company financially. Wayne identified some of the DuPont era chemicals by matching information found on container labels to DuPont records. He has also conducted a partial analysis (including chloride and cyanide analysis) on some of the unknowns. Former DuPont employee Dr. Kahn has offered to assist Harper Thiel in identifying the unknowns. Wayne hopes to meet with Dr. Kahn in the near future. Wayne requested that the Branch give him an additional 90 days to complete identification of the unknowns.

Wayne will be mailing the Branch a copy of the chemical inventory and the waste determination data. He requests that the Branch hold the information confidential.

cc: Bob Palmer
Karen J'Anthony

FILE COPY

HAZARDOUS WASTE COMPLIANCE ASSESSMENT REPORT

TO: Alex Rittberg

FROM: Matt Higgins MA
Alan Simpson

SUBJECT: CA: Harper-Theil, Inc.
3201 Miller Road
Wilmington, DE 19802

REFERENCE: DED002366854, File Code: 21

DATE: September 18, 1996

SITE REPRESENTATIVE: Lee Wayne Anderson/Owner

HWMB REPRESENTATIVES: Matthew D. Q. Higgins and Alan H. Simpson

DATE OF INSPECTION: July 24, 1996

PURPOSE OF INSPECTION: Annual Compliance Assessment - LGQ, TSD

CURRENT FACILITY STATUS: LQG

NOTIFIED FACILITY STATUS: LQG

1.0 FACILITY DESCRIPTION

Harper-Theil, Inc. is located at 3201 Miller Road Wilmington, Delaware. The facility is a small, privately owned electroplating and metal refinishing company that has operated since 1964. DuPont originally owned and operated the facility until Harper-Theil's purchase of the property in 1946. Harper-Theil has operated since 1981 as a hazardous waste treatment and storage facility under interim status. In 1990, Harper-Theil notified the Hazardous Waste Management Branch (HWMB) they were initiating RCRA closure activities at their facility. Five (5) interim status units were closed and the HWMB is currently reviewing the closure report.

Harper-Theil discharges to the City of Wilmington Publicly Owned Treatment Works (POTW) under Permit No. W-86-01. The POTW requires Harper-Theil to analyze their discharge over a four (4) day period every six (6) months for cadmium, cyanide A, and lead. In addition, Harper-Theil tests their discharge once every six (6) months for total toxic organics. Harper-Theil collects their samples in conjunction with the City's sampling event.

Harper-Theil consists of the buildings depicted in Figure 1. The buildings and numbers are the same as those in Harper-Theil's Tier II submittal. Building numbers are displayed on the sides of the building. Harper-Theil, Inc. has the following environmental permits:

- Permit #W-86-01 to discharge to the City of Wilmington's POTW

2.0 PRE-INSPECTION PREPARATION

Prior to the site visit, the facility's 1996 Annual Hazardous Waste Report and hazardous waste manifests were reviewed. On the basis of this review, it was determined that the facility is a large quantity generator. The report and manifest review revealed the following waste streams:

- 1) Waste Corrosive Liquids - Chlorine Substituted Penta Aqua Chromium III (D002, D007, D006, D008)
- 2) Waste Corrosive Liquids - Sulfuric Etch Vat Bottoms (D002, D007)
- 3) Waste Corrosive Solids - Contaminated Paper, Rusted Containers, Zincate Salts (D002)
- 4) Waste Liquid - Paint Residues (D008)
- 5) Waste Corrosive Liquids - Spent Stripping Solution; Tubes (D002, D007)
- 6) Waste Solids - Chromium (III) Contaminated Cleanup Debris From Tube Stripping (D002)
- 7) Waste Solids - Acetone Hand Towels (F003)
- 8) Waste Solids - Chrome Contaminated Debris (D007, D008)
- 9) Waste Liquid - Catholyte Liquors Bearing Chrome Contaminated With Copper Hydroxide (D007)
- 10) Waste Solids - Cyanide Contaminated Debris (D003)

The majority of the hazardous waste generated at the facility in 1996 was from a one time disposal of 40,000 pounds of corrosive liquids containing lead, cadmium, and chromium. Other waste generation includes spent chrome stripping solution, chrome contaminated debris, and chrome contaminated catholyte liquids.

3.0 SAFETY PREPARATION

After reviewing the facility file and previous inspection reports, it was determined that steel toed boots, safety glasses and hard hats would be adequate personal protective equipment under normal operating conditions at the site.

4.0 INSPECTION OBSERVATIONS

On July 24, 1997, Matthew Higgins and Alan Simpson of the HWMB conducted the annual Compliance Assessment (CA) at the Harper-Theil, Inc. facility. L. Wayne Anderson represented Harper-Theil, Inc.

4.1 ON-SITE RECORDKEEPING REVIEW

While reviewing the facility's records, the following observations were made:

4.1.1 Manifests, Annual Hazardous Waste Reports, Waste Analyses, and Land Ban

During the pre-CEI review of the 1996 manifests and 1996 Annual Hazardous Waste Report, a discrepancy was noted between the Annual Report and the manifests. A manifest (No. INA1992832) had not been submitted to the HWMB. This discrepancy was corrected by Harper-

Theil, Inc. at the time of the CA. This manifest also revealed an additional waste stream not reported in the 1996 Annual Report.

Harper-Theil, Inc. had at least three (3) years worth of the following documents available for HWMB review:

- 1) Manifests and exception reports. No exception reports are on file for 1996.
- 2) Annual Reports.

The facility uses process knowledge and analytical testing to make hazardous waste determinations. Results of the analytical testing and all applicable land disposal restriction (LDR) forms were available for review for the HWMB.

4.1.2 Training Records, Inspection Records, and Contingency Plan

The HWMB reviewed Harper-Theil, Inc. training records for personnel handling hazardous waste. Personnel at Harper-Theil, Inc. that handle hazardous waste are trained on an annual basis. Only two (2) employees handle hazardous waste at the facility. New employees are given training on an as needed basis within their first six (6) months of hire.

The HWMB reviewed inspection records for the Harper-Theil, Inc. facility ninety day accumulation area. The HWMB also reviewed Harper-Theil's emergency contingency plan.

No violations were noted during this portion of the inspection.

4.2 ON-SITE ASSESSMENT

The HWMB representatives were given a tour of the facility by L. Wayne Anderson, president of Harper-Theil, Inc. The following areas were inspected:

- 1) Building I - Ninety day accumulation area
- 2) Building I - Satellite accumulation area - Lavatory
- 3) Building I - Satellite accumulation area - Inspection
- 4) Building III - Satellite accumulation area - Plating
- 5) Building IV - Satellite accumulation area - Ionsep 9001 Reactor
- 6) Building IV - Satellite accumulation area -Plating
- 7) Building V - Satellite accumulation area - Cyanide Plating
- 8) Former interim status storage pad
- 9) Cupric Hydroxide sludge reclamation area
- 10) Miscellaneous plating processes

4.2.1 Accumulation Area Assessment

The following observations were made at the ninety day and satellite accumulation areas:

Building I - Ninety Day Accumulation Area

Two (2) containers of hazardous waste were stored in the ninety day accumulation area. A five (5) gallon pail containing waste lead paint scrapings (D008) did not have an accumulation start date

on its label. The ninety day inspection log revealed that the waste paint was placed in the ninety day area on 7/14/97; Mr. Anderson dated the container at the time of the inspection.

Building I - Satellite Accumulation Areas

There are two (2) satellite accumulation areas located in Building I. The lavatory satellite area had one (1) fifty-five gallon drum of chromium (D007) contaminated debris. This satellite area accepts wastes generated from every sector of the facility and is not located near a process. The inspection room satellite area had one (1) fifty-five gallon drum of acetone rags (F003). No violations were observed at this satellite accumulation area.

Building III - Satellite Accumulation Areas

There are two (2) satellite accumulation areas located in Building III. Both are located in the plating room and consist of one thirty gallon drum of chromium (D007) contaminated debris and one five gallon pail of lead chromate (D007, D008). No violations were observed at the satellite accumulation areas in Building I.

Building IV - Satellite Accumulation Areas

Building IV has two (2) satellite areas in the Ionsep 9001 reactor room and one (1) satellite area in the plating area. The satellite areas in the Ionsep 9001 reactor room consisted of a fifty-five gallon drum used to contain sodium bisulfite cleanup debris from spills and a five (5) gallon pail that contained reactor precipitate. Sodium bisulfite is used as a reducing agent in the Ionsep reactor and is hazardous through chromium (D007) contamination. The five gallon pail that contained trivalent chromium precipitate (D007) did not have a label identifying the contents. The plating room satellite area had one (1) thirty gallon drum containing chrome (D007) contaminated debris. No violations were observed in the plating room.

Building V - Cyanide Plating

Building V houses the cyanide plating process. The satellite area consists of one (1) thirty gallon drum containing bath residues (F008) from the cyanide plating process. No violations were observed in the cyanide plating building.

4.2.2 Former Interim Status Storage Pad

The HWMB inspected the former interim status Part B storage pad located in Building X. The pad now stores chemicals used for various electroplating processes.

4.2.3 Cupric Hydroxide Sludge Reclamation

The HWMB observed the cupric hydroxide sludge reclamation process. Harper-Theil, Inc., had been storing the sludge on-site since 1982. The sludge is a result of regenerating spent copper stripping solution. The regenerated sludge is used as feedstock in the copper plating process. A total of sixteen (16) barrels of sludge were being reclaimed at the time of the inspection. Analysis of the sludge revealed elevated chromium levels.

Mr. Anderson stated that half of the barrels with low chromium levels were filtered and would be reused in the copper bath. The other eight (8) barrels with high chromium levels were being reconditioned by the addition of hydrogen peroxide solution. The hydrogen peroxide oxidizes the trivalent chromium to its hexavalent form; the hexavalent chromium is then filtered and rinsed from the sludge and is added into the chrome plating bath. The leftover sludge is then used to regenerate the sulfuric/chromic acid stripping bath. Each drum of cupric hydroxide was labeled hazardous waste with an accumulation start date of 11/9/96 at the time of the assessment. The HWMB directed Harper-Theil, Inc. to remove the hazardous waste labels; Harper-Theil, Inc. re-labeled the drums as containing oxidizer compounds at the time of the inspection.

4.2.4 Miscellaneous Processes

The 1996 CA report for Harper-Theil identified nine (9) small miscellaneous processes. During the 1997 CA, the HWMB "walked through" each process and identified any potential hazardous waste generation. The processes are summarized below:

Nitric Acid Stripping of Lead Parts - Harper-Theil, Inc. stated this process has never taken place at the facility.

Sulfuric Acid Stripping of Nickel Parts - This process uses a lead cathode (the part being stripped acts as the anode) to dissolve Nickel electrolytically. Chrome is also stripped in the same bath; the resulting sludge is shipped off-site as hazardous waste due to chromium content (D007).

Hydrochloric Acid Stripping of Chromium and Copper Parts - This process strips chrome plate and copper from metal parts placed in the bath. The resulting sludge may be used as feedstock if of a sufficient purity; if the sludge does not meet this criteria then it is shipped off-site as chromium contaminated hazardous waste (D007).

Lead Fluoborate Plating - This process uses pure lead anodes in a fluoborate solution to plate parts. All byproducts and sludge from this process are shipped off-site as lead hazardous waste (D008).

Tin Plating - This process uses pure tin anodes in an alkaline stannate bath. No hazardous waste is produced from this operation, as the stannate bath has a pH of less than 12.5

Acid Copper Sulfate Plating - This process adds a second, thicker layer of copper to metal parts that have been cyanide plated. No hazardous waste is generated from this process.

Nickel Plating - Metal parts to be plated are placed in a nickel sulfate or nickel sulfamate bath. No hazardous waste is generated from this process.

Electroless Nickel Plating - Harper-Theil, Inc. conducts electroless nickel plating on a small scale basis in a lab setting. No hazardous waste is generated from this process.

Citrate Gold Plating - This plating process is conducted on a small scale basis in a lab setting. The plating solution is kept at a pH of 3 in an eight (8) gallon bath. Parts are first dipped in a cyanide strike solution and then in a potassium gold citrate solution. Any wastes from this process are shipped off-site for precious metal recovery.

5.0 VIOLATIONS

The HWMB observed the following violations during the CA at Harper-Theil, Inc.:

- 1) The ninety day accumulation area in Building I had one (1) container of lead paint waste without an accumulation start date. This is a violation of the Delaware Regulations Governing Hazardous Waste (DRHGW) Section 262.34 (a) (2) which:

"The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;"

This container was dated prior to the conclusion of the CA.

- 2) The satellite accumulation area in Building IV (Reactor Room) had a five (5) gallon pail of trivalent chromium precipitate with no "Hazardous Waste" label. This is a violation of the DRHGW Section 262.34 (c) (1) (ii) which states that a generator must:

"Marks his containers with either the words "Hazardous Waste" or with other words that identify the contents of the containers."

This container was labeled prior to the conclusion of the CA.

6.0 RECOMMENDATION

The HWMB recommends sending a Notice of Violation to Harper-Theil, Inc. for the violations of the DRHGW identified during the 7/24/97 CA. In addition, require Haper-Theil, Inc. to submit an updated Annual Report reflecting the additional waste stream discovered during the CA.

MDH:slm

mdh97012

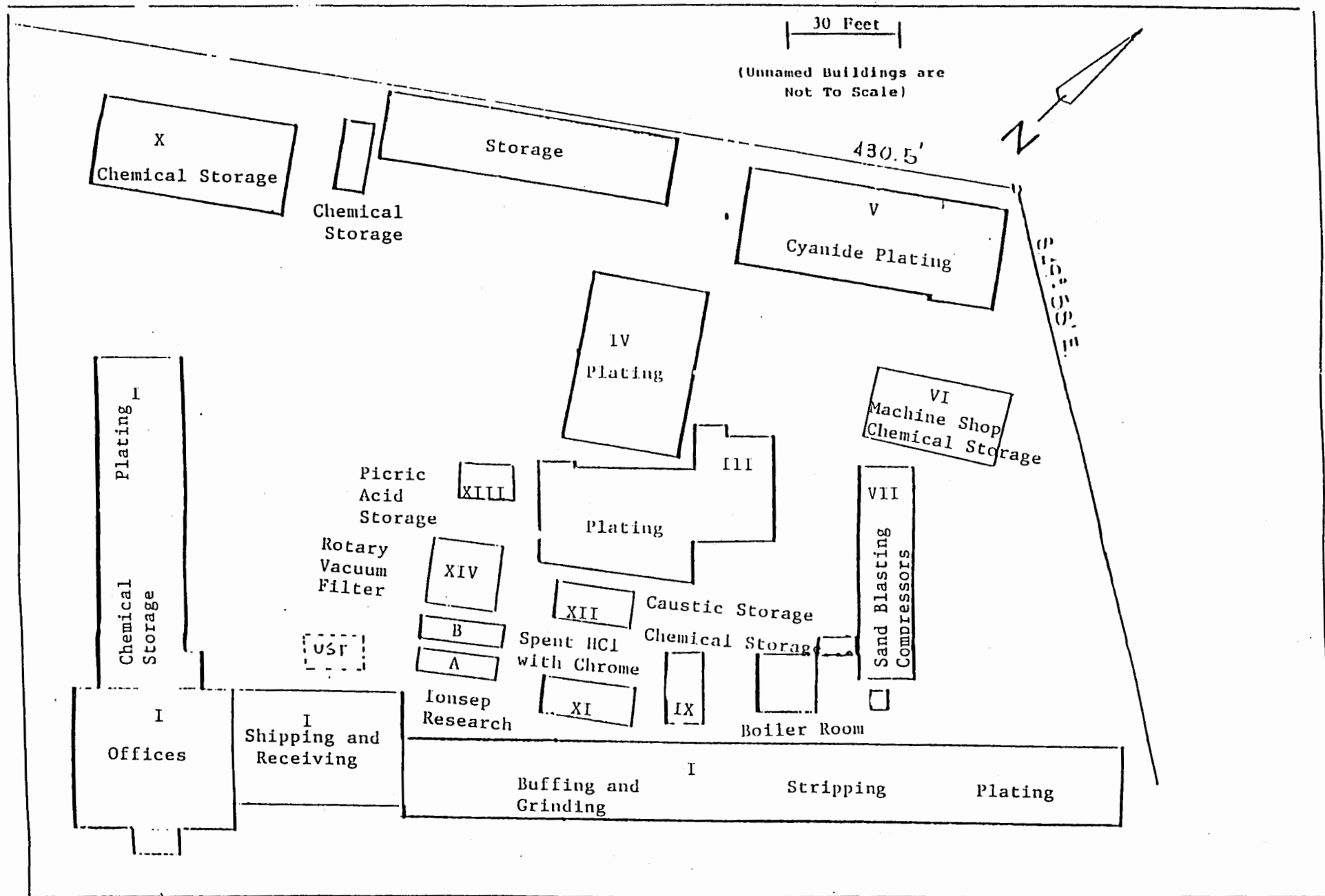


Figure 1 Facility Layout

CHECKLIST FOR OVERVIEW OF HAZARDOUS WASTE INSPECTION

Name of Facility: Harper Theil
Address: 32nd + Millr Rd.
Wilmington, DE 19802
EPA Generator ID Number: DEED002366854
Date of Inspection: 7/24/97
Inspector: Matthew Higgins + Allan Simpson
Facility Inspection Representative: Lee Wayne Anderson
Title: President
Telephone Number: (302) 764-8945

Review of DNREC Records

262.20(a); 262.44 & 262.40(a)

Large and small quantity generators must fill out a manifest to include the information required by the form shown in Appendix II for each shipment of hazardous waste. Item 12, container type, indicates whether the accumulation areas utilize containers and/or tanks. There are separate checklists for containers and tank accumulation areas.

Manifests for 1996 were reviewed. The HWMB is receiving copies of ~~the~~ manifests. Harper Theil shipped hazardous waste off-site in 1996 in DFC (drum-fiber) and TT (cargo tanks) containers.

262.34(c), (a)

Do the manifests show the generator to be a large or a small quantity generator?

The manifests indicate that Harper Theil generated 42,744.2 pounds of hazardous waste in 1996. Harper Theil was a large quantity generator in 1996.

262 Subparts E & F

Generators whose manifests or annual reports show they export or import hazardous waste must meet the requirements in Subpart E & F of 262.

Harper Theil does not import or export hazardous waste.

Review of DNREC Records (continued)

262.42(b)

Large Quantity Generators must submit an exception report for any shipment not received by the designated TSD within 45 days of initial transport.

No exception reports were generated by Hapco Thiel in 1996.

262.41

Large Quantity Generators must submit an annual report by March 1 for the preceding calendar year. The report must include the information required by the form shown in 262 Appendix I.

Hapco Thiel submitted an Annual Report for 1996 on 3/3/97.

A comparison of manifests received by the HWMB & the 1996 Annual Report revealed a 1,752.5 pound discrepancy of waste reported vs. waste manifested

NOTE: 262.44 & 262.40 exempt small quantity generators from annual reports and exception reporting.

FILE COPY

HAZARDOUS WASTE COMPLIANCE ASSESSMENT REPORT

TO: Alex Rittberg *ER*

FROM: Matthew Higgins
Alan Simpson

SUBJECT: CA: Harper-Thiel Inc.
3201 Miller Road
Wilmington, DE 19802

REFERENCE: DED002366854, File Code: 21

DATE: May 7, 1998

SITE REPRESENTATIVE: Lee Wayne Anderson/Owner

HWMB REPRESENTATIVES: Matthew D. Q. Higgins and Alan H. Simpson

DATE OF INSPECTION: March 25, 1998

PURPOSE OF INSPECTION: Annual Compliance Assessment - LGQ, TSD

CURRENT FACILITY STATUS: SQG

NOTIFIED FACILITY STATUS: LQG

1.0 FACILITY DESCRIPTION

Harper-Thiel Inc. is located at 3201 Miller Road Wilmington, Delaware. The facility is a small, privately owned electroplating and metal refinishing company that has operated since 1964. DuPont originally owned and operated the facility until Harper-Thiel's purchase of the property in 1946. Harper-Thiel has operated since 1981 as a hazardous waste treatment and storage facility under interim status. In 1990, Harper-Thiel notified the Hazardous Waste Management Branch (HWMB) they were initiating RCRA closure activities at their facility. Five (5) interim status units were closed and the HWMB is currently reviewing the closure report.

Harper-Thiel discharges to the City of Wilmington Publicly Owned Treatment Works (POTW) under Permit No. W-86-01. The POTW requires Harper-Thiel to analyze their discharge over a four (4) day period every six (6) months for cadmium, cyanide A, and lead. In addition, Harper-Thiel tests their discharge once every six (6) months for total toxic organics. Harper-Thiel collects their samples in conjunction with the City's sampling event.

Harper-Thiel consists of the buildings depicted in Figure 1. The buildings and numbers are the same as those in Harper-Thiel Inc. Tier II submittal. Building numbers are displayed on the sides of the building. Harper-Thiel Inc. has the following environmental permits:

- Permit #W-86-01 to discharge to the City of Wilmington's POTW

2.0 PRE-INSPECTION PREPARATION

Prior to the site visit, the facility's 1997 Annual Hazardous Waste Report and hazardous waste manifests were reviewed. On the basis of this review, it was determined that the facility is a small quantity generator. The report and manifest review revealed the following waste streams:

- 1) Waste Flammable Liquids - Lab Chemicals (D001)
- 2) Waste Toxic Liquids - Lab Chemicals (U167, U211, U186)
- 3) Lead Bearing Paint Waste - Dust Containing Lead Oxide Pigments (D008)
- 4) Spent Stripping Solution - Waste Corrosive Liquid (D002, D007)
- 5) Chrome Contaminated Debris - Aluminum, Plastic Tape, Latex Gloves (D007)
- 6) Chrome Contaminated Debris - Rubber Gloves, Filters, Plastic Sawdust, & Paper Towels (D007)
- 7) Reactor Salts - 9001 Ionsep Unit Reactor Salts (D002, D007)

Waste Streams six (6) and seven (7) were accumulated on-site in 1997 in satellite accumulation areas, but had not been shipped off-site at the time of the CA.

3.0 SAFETY PREPARATION

After reviewing the facility file and previous inspection reports, it was determined that steel toed boots, safety glasses and hard hats would be adequate personal protective equipment under normal operating conditions at the site.

4.0 INSPECTION OBSERVATIONS

On March 25, 1998, Matthew Higgins and Alan Simpson of the HWMB conducted the annual Compliance Assessment (CA) at the Harper-Thiel Inc. facility. L. Wayne Anderson represented Harper-Thiel Inc.

4.1 ON-SITE RECORDKEEPING REVIEW

While reviewing the facility's records, the following observations were made:

4.1.1 Manifests, Annual Hazardous Waste Reports, Waste Analyses, and Land Ban

Harper-Thiel Inc. had at least three (3) years worth of the following documents available for HWMB review:

- 1) Manifests and exception reports. No exception reports are on file for 1996.
- 2) Annual Reports.

The facility uses process knowledge and analytical testing to make hazardous waste determinations. Results of the analytical testing and all applicable land disposal restriction (LDR) forms were available for review for the HWMB.

4.1.2 Training Records, Inspection Records, and Contingency Plan

The HWMB reviewed Harper-Thiel Inc. training records for personnel handling hazardous waste. Personnel at Harper-Thiel Inc. that handle hazardous waste are trained on an annual basis. Only two (2) employees handle hazardous waste at the facility. New employees are given training on an as needed basis within their first six (6) months of hire. No new employees were hired in the last year.

The HWMB reviewed inspection records for the Harper-Thiel Inc. facility 90 day accumulation area. The HWMB also reviewed Harper-Thiel Inc. emergency contingency plan.

No violations were noted during this portion of the inspection.

4.2 ON-SITE ASSESSMENT

The HWMB representatives were given a tour of the facility by L. Wayne Anderson, president of Harper-Thiel Inc. The following areas were inspected:

- 1) Building I - 90 day accumulation area
- 2) Building I - Satellite accumulation area - Lavatory
- 3) Building I - Satellite accumulation area - Inspection
- 4) Building I - Satellite accumulation area - Cupric Hydroxide Recovery Area
- 5) Building III - Satellite accumulation area - Plating
- 6) Building IV - Satellite accumulation area - Ionsep 9001 Reactor
- 7) Building IV - Satellite accumulation area -Plating
- 8) Building V - Satellite accumulation area - Cyanide Plating
- 9) Building VI - Satellite accumulation area - Machine Shop
- 10) Former interim status storage pad
- 11) Cupric Hydroxide sludge reclamation area

4.2.1 Accumulation Area Assessment

The following observations were made at the ninety day and satellite accumulation areas:

Building I - 90 Day Accumulation Area

Two (2) 30 gallon drums of D002/D007 hazardous waste were stored in the 90 day accumulation area. Both drums were labeled with an accumulation start date of 1/9/98. No violations were observed at the 90 day accumulation area.

Building I - Satellite Accumulation Areas

There are three (3) satellite accumulation areas located in Building I. The lavatory satellite area consisted of one (1) 55 gallon drum storing chromium (D007) contaminated debris. The majority of the waste stored at this satellite accumulation area is personal protective equipment (PPE). The inspection room satellite area consisted of one (1) 55 gallon drum storing acetone rags (F003) used to clean metal parts prior to plating.. The cupric hydroxide recovery satellite accumulation area consisted of one (1) five (5) gallon bucket storing chromium (D007) contaminated debris. No violations were observed at this satellite accumulation area

Building III - Satellite Accumulation Area

Building III has one (1) satellite accumulation area located in the plating room which consisted of one (1) 30 gallon drum of chromium (D007) contaminated debris. No violations were observed at this satellite accumulation area.

Building IV - Satellite Accumulation Areas

Building IV has three (3) satellite areas in the Ionsep 9001 reactor room and one (1) satellite area in the plating area. The satellite areas in the Ionsep 9001 reactor room consisted of a 30 gallon drum used to contain chromium contaminated debris (D007), a five (5) gallon pail that contained D007 reactor precipitate/sludge, and a five (5) gallon pail containing D007 reactor salts. No violations were observed concerning these containers. A plastic bag containing latex gloves was observed in the Ionsep 9001 reactor room. Mr. Anderson stated that he disposes of the gloves as D007 contaminated debris. The plating room satellite area had one (1) 30 gallon drum containing chrome (D007) contaminated debris. No violations were observed in the plating room.

Building V - Cyanide Plating

Building V houses the cyanide plating process. The satellite area consists of one (1) 30 gallon drum containing bath residues (F008) from the cyanide plating process. No violations were observed in the cyanide plating building.

Building VI - Machine Shop

Building VI houses the machine shop. The satellite area consists of one (1) 55 gallon drum of D007 debris from floor spills. The drum's top was missing a bung hole cover.

Building VIII - Sand Blasting Compressors

Building VIII houses the sand blasting compressors. Metal parts are periodically sand blasted prior to plating to ensure a desired finish. The HWMB observed spent sand blast media on the ground outside of Building VIII. No containers were observed storing spent sand blast media. Sand blast media is not listed as a hazardous waste stream in Harper-Thiel Inc.'s annual report.

4.2.2 Former Interim Status Storage Pad

The HWMB inspected the former interim status Part B storage pad located in Building X. The pad now stores chemicals used for various electroplating processes.

4.2.3 Cupric Hydroxide Sludge Reclamation

The HWMB observed the cupric hydroxide sludge reclamation process. Harper-Thiel Inc., had stored the sludge on-site since 1982. The sludge is a result of regenerating spent copper stripping solution with chromic acid. Analysis of the sludge revealed it contained elevated levels of chromium. Harper-Thiel Inc. is in the process of recovering the chromium contained in the sludge. The reconditioned sludge is used as feedstock in the copper plating process. Harper-Thiel Inc. recovers chromium by adding a hydrogen peroxide solution to the sludge. The hydrogen peroxide oxidizes the solid trivalent chromium to its liquid hexavalent form. Harper-Thiel Inc. then recovers

the hexavalent chromium from the sludge via filtration. The recovered chrome is used as feedstock for chromium plating baths. The HWMB observed three (3) drums containing hexavalent chromium in solution. An additional six (6) drums containing trivalent chromium solids mixed with cupric hydroxide sludge were observed. Harper-Thiel Inc. is still recovering the chromium from this sludge..

5.0 VIOLATIONS

The HWMB observed the following violations during the CA at Harper-Thiel Inc.:

- 1) The satellite accumulation area in Building IV (Reactor Room) had a plastic bag of chromium contaminated (D007) debris (latex gloves) with no "Hazardous Waste" label. This is a violation of the Delaware Regulations Governing Hazardous Waste (DRGHW) Section 262.34 (c) (1) (ii) which states that a generator must:

"Marks his containers with either the words "Hazardous Waste" or with other words that identify the contents of the containers."

- 2) The satellite accumulation area in Building VI (machine shop) had one (1) 55 gallon drum of D007 spill cleanup debris that had an open bung. This is a violation of the DRGHW Section 265.173 (a) which states that:

"A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste."

- 3) Spent sand blast media was observed in and on the ground outside of Building VIII. No containers were observed storing the spent sand blast media. Spent sand blast media was not listed as a hazardous waste stream in Harper-Thiel's annual report. The sand blast media is used to finish and strip metal parts. The potential exists for the sand blast media to be considered a hazardous waste when spent. This is a violation of the DRGHW Section 262.11 which states:

"A person who generates a solid waste, as defined in §261.2, must determine if that waste is a hazardous waste....."

6.0 RECOMMENDATION

The HWMB recommends sending a Notice of Violation to Harper-Thiel Inc. for the violations of the DRGHW identified during the March 25, 1998, CA. In addition, require Harper-Thiel Inc. to complete the following tasks:

- 1) Submit a report detailing the progress of the cupric hydroxide sludge reclamation.
- 2) Make a hazardous waste determination on the spent sand blast media observed at Building VIII.

MDH:slm

mdh98014

**SAND BLAST MEDIA
SAMPLING PLAN**

**HARPER-THIEL, INC.
WILMINGTON, DELAWARE**

To:

E. Alex Rittberg *EAR*

Prepared By:

Matthew D. Q. Higgins *MH*
State of Delaware, DNREC, DAWM, HWMB
June 23, 1998

HARPER-THIEL, INC.
3201 Miller Road
Wilmington, DE 19802
(302)764-8945
Owner: H. Wayne Anderson

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1.0 BACKGROUND

1.1 Chronology

On March 25, 1998, Hazardous Waste Management Branch (HWMB) personnel conducted a compliance assessment (CA) at HARPER-THIEL Inc. (HTI). During the CA, HWMB personnel observed several piles of spent sand blast media located in three rooms and on the ground outside of Building VII. HTI had no waste characterization data on file regarding the spent sand blast media.

On May 7, 1998, the HWMB issued a Notice of Violation (NOV #98-HW-07) to HTI. HTI was directed in the NOV to perform a waste characterization of the spent sand blast media in Building VII. HTI submitted the waste characterization data for the spent sand blast media on the ground outside of Building VII on June 16, 1998. The sample was analyzed for total Priority Pollutant Metals; the results are summarized below:

TABLE 1

Analyte	Result (ppm)	Detection Limit (ppm)
Antimony	NR*	0.001
Arsenic	NR	0.001
Beryllium	0.245	0.139
Cadmium	0.932	0.278
Chromium	30.2	0.556
Copper	357	0.208
Lead	63.7	1.67
Mercury	ND**	0.038
Nickel	22.1	0.764
Selenium	NR	0.001
Silver	ND	0.70
Thallium	NR	0.002
Zinc	442	0.208

Note: * = No Result Reported

** = Not Detected

The HWMB does not consider HTI's sampling representative of the different process streams located within Building VII.

1.2 Location

HTI is located on the north side of Miller Road in north Wilmington in northern New Castle County. The surrounding setting is a mix of industrial, commercial, and residential areas. The southern property boundary is established by Miller Road. See attached Site Map

2.0 OBJECTIVES

The objectives of this sampling event are to document the absence or presence of hazardous characteristics for the eight (8) RCRA metals in the spent sand blast media. Sample collection and analysis shall be performed in the three (3) sand blast rooms located in and on the ground outside of Building VII.

The contaminants of concern within the media matrix are the eight (8) RCRA metals. Collected spent sand blast media samples shall be analyzed for the following inorganic metals: arsenic, barium, chromium, cadmium, lead, mercury, selenium, and silver.

HWMB personnel involved with the field collection of samples include:

Matthew D. Q. Higgins
E. Alex Rittberg

The laboratory selected to conduct the analysis of field collected samples is:

The State of Delaware
Department of Natural Resources and Environmental Control
Division of Water Resources
Environmental Services Section

3.0 SAMPLING METHODOLOGIES

The sampling methodologies and procedures proposed for the investigation are as follows:

- 3.1 Media Sample Collection
- 3.2 Media Sample Analysis

Methods used for representative sample collection of the above include:

- 3.1 Media Sample Collection

Samples shall be collected for the analysis of the eight (8) RCRA metals. Each room of Building VII has between approximately one (1) to two (2) cubic yards of spent sand blast media. An equivalent amount of spent sand blast media is located outside the building on the ground. Samples will be collected in a random manner within each room and outside of the building. The locations are to be deemed appropriate by HWMB field representatives while on-site. The samples will be obtained as point grab samples.

Sampling will be conducted using disposable plastic scoops. An appropriate amount of spent media will be obtained from random points within each room to completely fill an eight ounce (8 oz) glass jar. Upon collection, the sampled will be immediately and appropriately labeled. Once labeled, the sample containers will be placed within a sealed "ziplock" bag and immediately transferred to a cooler and placed on ice. Chain of Custody and Request for Analysis Forms will be immediately completed. Upon completion of field activities, the samples will be immediately delivered to the selected lab.

3.2 Media Sample Analysis

Collected media sample analysis will be performed following the United States Environmental Protection Agency (EPA) Contract Laboratory Program (CLP) protocol, following all appropriate methods as specified in *Test Methods for Evaluating Solid Waste, SW846, 3rd Edition, REVI, November 1990*. The proposed analytical methods are as follows:

TABLE 2

Analyte	SW-846 Method
Arsenic	7061/7060
Barium	7080
Cadmium	7130/7131
Chromium	7091/7191
Lead	7420/7421
Mercury	7470/7471
Selenium	7740/7741
Silver	7760

Samples may be retained for Toxicity Characteristic Leaching Procedure (TCLP) extraction and appropriate analysis if the initial results suggest this action is warranted.

4.0 SAMPLING DESIGN

As the sampling design is conducted in a random field generated method, sample collection locations are as of yet undetermined. An estimated four (4) spent sand blast media sample will be collected. The random collection pattern of the sampled locations will be determined based upon filed observations conducted by HWMB representatives Matthew D. Q. Higgins and E. Alex Rittberg.

5.0 FIELD QUALITY CONTROL / QUALITY ASSURANCE

All sample collection procedures will be in accordance with the following established CLP protocols:

- a) Upon collection, all samples will be placed in sealed "ziplock" bags, placed in a cooler, and chilled to 4° Celsius.
- b) Latex gloves will be worn by field personnel and changed between each sample collection point.
- c) Sampling equipment shall consist of disposable plastic scoops which will be changed between sampling collection points.
- d) No equipment blank sample will be collected due to the use of sealed disposable sampling equipment.
- e) All sampling activities will be documented in the field using a field log, which will include: description of sample locations, sample composition, date and time of collection, as well as volume and type of sample collected. Chain-of-Custody and Request for Analysis Forms will be completed on the day of the sampling event. After the samples and the proper

forms are placed within the cooler, it will be sealed for delivery to the laboratory insuring the integrity of each sample.

MEMORANDUM

FILE COPY

TO: E. Alex Rittberg *ER*
FROM: Mark A. Davis *(MD)*
SUBJECT: COMPLIANCE EVALUATION (CE):
Harper-Thiel, Incorporated (HTI)
REFERENCE: DED002366854, File Code 21
DATE: October 20, 1993

GENERATOR ADDRESS:

Harper-Thiel, Inc.
32nd & Miller Road
Wilmington, DE 19802

COMPANY OFFICIAL:

Lee W. Anderson
President

HWMB REPRESENTATIVES:

Mark Davis
Cheryl Hess

DATE OF INSPECTION:

September 22, 1993

PURPOSE OF INSPECTION:


CE

FACILITY STATUS:

SQG; TSD

PRE-INSPECTION SAFETY PREPARATION

Based on a review of the HWMB files and on experience gained from previous site visits to HTI, the inspectors determined that Level D protection (ie. steel-toed boots, hard-hats and safety glasses) would be adequate under normal operating conditions at the facility.





FILE COPY

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT

WASTE MANAGEMENT
SECTION

89 KINGS HIGHWAY
P.O. Box 1401
DOVER, DELAWARE 19903

HAZARDOUS WASTE: (302) 739 - 3689
SOLID WASTE: (302) 739 - 3820
FAX: (302) 739 - 5060

January 29, 1997

Certified Mail
Return Receipt Requested
Z 235 122 902

Mr. Lee Wayne Anderson
Harper-Thiel, Incorporated
32nd & Miller Road
Wilmington, DE 19802

RE: Harper-Thiel, Incorporated
EPA ID#DED002366854 File Code: 15-1

Dear Mr. Anderson:

The Hazardous Waste Management Branch (HWMB) has reviewed Harper Thiel's "Hazardous Waste Closure Report", dated March 3, 1995. Based on the review of the above report, the HWMB has determined that Harper Thiel has completed a large portion of the closure activities. During these activities, Harper Thiel identified metal contaminated soils. Harper Thiel must perform remediation of these metal contaminated soils to complete closure of the facility. The HWMB is satisfied with Harper Thiel's surficial decontamination of Pot L, Pot R, Building Z, and Area V. Harper Thiel may begin using the pots and Building Z for industrial use.

The HWMB will contact Harper Thiel to set up a meeting to discuss approaches for addressing the remediation of the metals contaminated soils detected during closure.

If you have any questions regarding this matter, please call Patti Zietlow or Bhavesh Amin at 739-3689.

Sincerely,

Nancy C. Marker
Nancy C. Marker
Program Manager II
Hazardous Waste Manager

cc: Bhavesh Amin
Patti Zietlow
Alex Rittberg

BVA97007

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Lee Wayne Anderson
Harper-Thiel, Incorporated
32nd & Miller Road
Wilmington, DE 19802

4a. Article Number

Z 235 122 902

4b. Service Type

- ☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

8. Addressee's Address (Only if requested and fee is paid)

5. Received By: (Print Name)

6. Signature: (Addressee or Agent)

X *Mary D. Anderson*

Domestic Return Receipt

PS Form 3811, December 1994

Thank you for using Return Receipt Service.



JAMES C. ANDERSON ASSOCIATES, INC.
CONSULTING ENGINEERS, SCIENTISTS, PLANNERS,
SURVEYORS AND LICENSED DRILLERS

SUITE C-120 • 1201 COLLEGE PARK DR. • DOVER, DELAWARE 19901 • (302) 678-5737 • FAX (302) 678-5739

March 3, 1995

RECEIVED

MAR 6 1995

HAZARDOUS WASTE
MANAGEMENT BRANCH

Mr. Mark A. Davis
Hazardous Waste Management Branch
Department of Natural Resources and
Environmental Control
P.O. Box 1401
Dover, DE 19903-1401

Re: Harper-Thiel, Inc.
Hazardous Waste Closure Report

Dear Mr. Davis:

On behalf of Harper-Thiel, Inc. we are submitting the Harper-Thiel, Inc. Hazardous Waste Closure Report, March 1995. The report addresses closure activities that have taken place since receipt of the DNREC conditional approval of the July 1993 closure plan.


There are a few areas where closure activities and/or reporting deviate from the procedures/protocols of the closure plan. These deviations, as well as their practical implications are discussed in the report. After you have had a chance to review the report we would be happy to meet with you to discuss any concerns that you may have.

At the beginning of the report is a copy of the certification required by DRGHW Section 265.115. The original copy of the certification is being forwarded separately via registered mail, as required by regulation.

Please feel free to contact me with questions or to set up a meeting.

Sincerely,

James C. Anderson Associates, Inc.


J. Paul Jones, P.E.
Regional Director

cc: Mr. L. Wayne Anderson

I. INTRODUCTION

A. Background and Scope

Harper-Thiel, Inc. (HTI) may be characterized as a relatively small, privately owned and operated, electroplating and metal finishing company. This facility has been operating at its present location since 1946. Specific areas of this facility are currently permitted to conduct treatment and/or storage of hazardous waste under Interim Status (EPA Identification Number DED002366854). On November 9, 1990 the Delaware Department of Natural Resources and Environmental Control (DNREC) was notified by HTI that efforts to obtain a permanent operating permit were being discontinued in lieu of initiating closure activities for certain hazardous waste management structures. This document has been developed for HTI by James C. Anderson Associates, Inc. (JCA) to meet the closure requirements of the Delaware Regulations Governing Hazardous Waste (DRGHW) for Interim Status facilities. It is HTI's intent to continue the generation of waste in a manner that results in them being classified a small quantity, conditionally exempt generator. Portions of this document draw heavily on information provided by HTI, the record available through DNREC and the Federal Environmental Protection Agency (EPA).

B. Closure Performance Standard

As stated above this plan has been developed to meet the requirements of the DRGHW for interim status facilities. These requirements are principally set forth in Subpart G of Section 265. The closure performance standard set forth in § 265.11, establishes the goals that must be achieved during the actual closure process.

This plan has been developed in consideration of these requirements. As indicated in Section VII.B this plan, when implemented, will result in the closure performance standard being achieved.

II. FACILITY DESCRIPTION

A. General Description

HTI is located in the City of Wilmington, New Castle County, Delaware, at Thirty-Second Street and Miller Road. The company occupies a rectangular site approximately 210 feet wide and 450 feet long. The northwest property boundary adjoins a railroad right-of-way owned by the Baltimore and Ohio Railroad. Haines Park and Baynard Boulevard adjoin the property to the southeast. Additional light commercial, residential, and recreational property is located to the northeast.

The physical plant consists of ten major structures including but not limited to office space, laboratories, storage buildings, plating buildings, a metal finishing shop, and plant support buildings such as boiler rooms, garages, and sheds.

The site is surrounded by a steel chain link fence, six feet in height, supported by steel posts and top bar. Access to the property is gained via two entrances. The main entrance is located on Miller Road. A secondary entrance is located at the rear of the property adjacent to Baynard Boulevard. Entrance is secured by means of chain link fence gates.

B. List of Hazardous Waste Management Units

As will be described in more detail in Section III.B, HTI has 5 hazardous waste management units which are being closed under this plan. Figure 1. shows the location of the five (5) hazardous waste units identified as areas. Reference is made to the corresponding RFA identification as follows:

Area I	-	Building Z
Area II	-	Building Z
Area III	-	Pot L
Area IV	-	Pot R
Area V	-	Building C

C. Hydrogeologic Conditions

According to DNREC documents the property does not contain wetlands, is not within a 100 year flood plain, and is not in a coastal zone. The property generally slopes from a high area in the east, to a low area in the west. An opinion provided by the Delaware Geologic Survey dated November 12, 1984 indicates that the HTI property is underlain by rock of the Wilmington complex. The opinion further notes that these rocks generally do not yield appreciable amounts of ground water, and that the area is not expected to be developed as a source of ground water. The

property is covered by a relatively thin layer of well drained, graded soil of medium to small size broken stone. Surface drainage is intercepted primarily by Miller Road and is likely to be managed by the municipal storm sewer system. The DNREC RCRA Facility Assessment (RFA) notes that effluent from the storm sewer is ultimately treated at the Cherry Island Tertiary Waste Water Treatment System.

D. List of Environmental Permits

Aside from having hazardous waste interim status, HTI holds only one other environmental permit. This permit is issued by the City of Wilmington for industrial waste water pretreatment (W-86-01).

E. Anticipated Waivers and Exemptions

As currently conceived we are not aware of the need for waivers and exemptions.

of the hydroxide sludge occurs at the storage structure.

- ◆ Item Number 9 - Electrodialysis produces a waste sludge similar to the sludge process described in Item Number 6. Chrome plating bath liquids are treated by electrodialysis which precipitates other metals out of solution. The sludge is then transferred in buckets to a storage structure for evaporation and storage.
- ◆ Item Number 10 - Acetone delacquering produces spent acetone contaminated with lacquer in the form of a sludge. The sludge is the waste product of an acetone recovery process whereby acetone utilized to clean metal parts is distilled and the recovered product reused. The used acetone is distilled in a portable distillation unit by a subcontractor. Sludge is stored in buckets in a storage structure.

Chemical analysis of the respective waste is provided in Appendix III. The analysis provided in this Appendix were sponsored by HTI and were utilized in the shipment of waste off-site for disposal. Copies of these analysis have previously been forwarded to DNREC as part of the off-site disposal process.

B. Hazardous Waste Units

Five storage units occupying some portion of four storage structures are utilized to house, under interim status, the waste inventory. These structures consist of a storage garage housing two storage locations, a metal shed, and two covered open top upright cylindrical steel tanks. The locations of these structures are shown in Figure 1.

Areas I and II

The storage building (Area I and Area II) is located in the southwest corner of the property adjacent to the B and O Railroad and Baynard Boulevard entrance driveway. The entire structure, identified as Building Z in the RFA, is approximately 25 feet wide and 50 feet long. Two-thirds of the building serves for hazardous storage. The remaining third serves as a garage bay. Concrete block walls support a wood truss, plywood and asphalt shingle roof. Access to the storage structure's interior is obtained through two metal overhead doors, each approximately ten feet wide and eight feet tall. The floor slopes away from the doors to the back of the structure. The interior floor is specifically designed for compatibility with the wastes which are stored in this structure.

The interior of the structure is divided into two storage areas. These areas are separated by a floor berm. Area I, located at the south end of this structure measures approximately 17 feet wide and 23 feet deep. The floor of this area

consists of 2½ inch thick red shale brick produced by the Belden Brick Company of Canton, Ohio. The bricks are joined by a corrosion resistant mortar of the brand name CHEMESTER produced by Atlas Minerals and Chemicals of Mertztown, Pennsylvania. The layer of bricks is supported by a 6-inch thick layer of concrete. Between the bricks and concrete is a ¼ inch three layer membrane of Atlastic 40™, also produced by Atlas Minerals and Chemicals. Excluding the entrance ramp the effective containment area of the floor is 16 feet wide by 16 feet long. As the total ramp slope accounts for 3 7/8 inches the containment system capacity is effectively greater than 600 gallons.

Area I of this structure is a treatment and storage location for waste produced from metal cyanide electroplating (Part A Application, Item Number 3). Cyanide contaminated carbonate salt sludge is transferred from the electroplating area to Area I in 5 gallon plastic containers. The 5 gallon containers are emptied into a larger polyethylene container with a 60 gallon capacity. Sodium hypochlorite is added to the sludge to remove the cyanide and form salt crystals. The salts are evaporated to dryness and transferred to 5 gallon storage pails. The treated waste is stored in Area I until it is shipped off site for disposal. When this area is swept the floor sweepings are also stored in closed containers in this area.

Area II is located at the north end of the hazardous storage portion of Building Z. structure. The construction is the same as Area I with minor exceptions. The mortar utilized in the floor is a product identified as CARBO-ALKOR, produced by Atlas Minerals and Chemicals of Mertztown, Pennsylvania. The containment is 16 feet long, 14 feet wide and 3 7/8 inches deep with a capacity of greater than 500 gallons.

Area II serves several purposes. The primary purpose is the storage of hazardous wastes identified in Appendix 2 as Item 6, 7 and 9. Shelves on the north side of the area hold 5 gallon capacity plastic pails suspected of containing mercury sludge. The floor is utilized as a storage area for lead sludge also contained in 5 gallon plastic pails and floor sweepings from housekeeping of various process buildings. Two pallets contaminated with sodium hydroxide are also stored in Area II. In addition to the hazardous wastes described above raw materials for various manufacturing processes, spill absorbent, and other materials are stored in this area in bottles, pails and drums.

According to the RFA developed by DNREC the area also is the location of several solid waste management units 37, 38, 39, 40 and 41. Table 2 of the RFA lists the SWMU's, this table is included in Appendix 4. With the exception of 41, which is addressed in this plan, these SWMU's are actually waste rather than management units. These wastes will be properly disposed of (see Section IVB).

Area III

Storage Area III (RFA L) is utilized to manage Item 2 of Appendix 2 (Spent Pentrate Superblack Salts). In the original Part A Application these salts are sludge from the bottom of a tank used to blacken steel. These materials were initially misclassified as F008 waste. Crippen Laboratory analysis #9928 of

October 1984 showed CN to be under .01 ppm. On the basis of this same analysis they were reclassified to D010 on Line No.3, Page 3 of 5, EPA Form 3510-3 (16-8) submitted to DNREC on 12/31/84.

The area consists of 4 elements. The concrete foundation slab is four inches thick and covers an area 8 feet wide by 8 feet long. The steel container is elevated above the pad approximately 3" by wooden supports. The container is cylindrical approximately 6' in diameter and 4' high. The capacity of the container is 845 gallons. The ¼" thick steel walls, floor, and cover are coated with paint on the interior and exterior. The container with Fabrico PVC 651 inner liner and ¼" rigid PVC floor inside the liner serves as single containment for 5 and 13 gallon steel containers of Spent Pentrate Salts. Together with the 5 and 13 gallon, containers the container inner liner and floor provide double containment for the waste. The membrane inner liner 50 mil PVC 651 Fabrico liner covers the container bottom and side walls up and over the tank rim and is held in place by a draw rope on the tank exterior. The ¼" rigid PVC protects the inner liner at the floor level from cuts through by the 5 and 13 gallon steel containers. The steel cover is coated with epoxy paint but contains no inner liner. According to the RFA there are no known releases from this structure. The original cover, though not perforated, was sold for scrap, as a precaution, when the perforated top for Storage Area IV was replaced. Both of the original tops were 11 years old. Neither top had come in contact with toxic waste.

Storage Area IV (RFA R) is used to store waste from Line No. 1, Page 3 of 5, in the 12.31.84 Part A submission to DNREC and from Line No. 1, page 3 of 5, Part A submission to Region III EPA on 11/17/80. These materials were originally misclassified as F008 waste in the 11/17/80 submission to EPA. On the basis of Crippen Laboratory analysis 19,069 of 12/28/84, they were reclassified as D008 in the 12/31/84 revised Part A.

Storage Area IV consists of five elements: A concrete foundation slab, a rectangular steel secondary container, an upright cylindrical steel container, a polyvinyl chloride (PVC) membrane inner liner within the steel container, a steel container and a steel cover for the container. The cylindrical steel container, inner liner and concrete pad are approximately 11 years old according to DNREC RFA. The rectangular steel secondary container and cover are less than 2 years old. The

rectangular secondary container was installed when DNREC determined the PVC Inner liner to be inadequate for secondary containment. The cover was replaced when found to be perforated during the RFA inspection. The cover which never comes in contact with stored materials was sold for scrap. The chromic acid in the sludge has little or no vapor pressure. The concrete slab is 6" thick and covers an area seven feet wide by seven feet long. The rectangular secondary containment container is 80" x 80" x 36" deep with three (3) 4" wide flange I beams for feet. It has a capacity of 922 gallons and rests directly on the pad. It is constructed of 1/4" thick sheet steel and is painted with epoxy paint. The inner container sets inside the rectangular secondary containment vessel and is 5 feet in diameter x 4½ feet high. Its capacity is 916 gallons. The steel inner container walls floor and exterior are painted with DuPont IMLAR VINYL based industrial paint. The inner container acts as structural support for a PVC membrane inner liner. The membrane liner is 3/32" thick and covers the container bottom and side walls, up and over the inner container rim. The steel cover is coated with epoxy paint but does not have a PVC inner liner. According to the RFA there are no known releases from this structure.

Area V

Storage Area V is utilized to manage waste described in Item Number 10 of Appendix 2. This area utilizes only a portion of the structure. The structure consists of three major elements: a concrete foundation slab, a metal and fiberglass shed, and a steel secondary containment drip pan. The steel secondary containment drip pan is the storage area. This area has been in use for approximately nine years.

A steel container used as a secondary containment drip pan and grate are located along the southeast wall of the shed. The pan is approximately two feet wide, three feet long, and six inches deep. Containers of used acetone are stored on top of the grated pan, also stored in this area are containers of mineral spirits, paint contaminated soil and a fire extinguisher. According to the RFA, there is no history of external spills from this area.

The shed consists of a concrete foundation slab is approximately six inches thick and encompasses an area ten feet wide by eleven feet long. It is constructed of corrugated galvanized steel panels which serve as walls, doors, and part of the roof. The panels are supported by a medium gauge steel frame. Opaque corrugated fiberglass panels serve as skylights in the roof.



FILE COPY

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT

89 KINGS HIGHWAY

P.O. BOX 1401

DOVER, DELAWARE 19903

WASTE MANAGEMENT
SECTION

ENVIRONMENTAL RESPONSE: (302) 739 - 3694
HAZARDOUS WASTE: (302) 739 - 3689
SOLID WASTE: (302) 739 - 3820
FAX: (302) 739 - 5060

October 27, 1993

Certified Mail
Return Receipt Requested
P 849 240 401

Mr. Lee Wayne Anderson, President
Harper Thiel, Inc.
32nd Street and Miller Road
Wilmington, DE 19802

Subject: RCRA Closure Health and Safety Plan

RE: DED002366854, FILE 15

Mr. Anderson:

On October 13, 1993, the Department of Natural Resources and Environmental Control, (DNREC) Hazardous Waste Management Branch (HWMB) received Harper Thiel, Incorporated's (HTI) October 8, 1993, Safety Plan, RCRA Closure Activities, drafted by Guardian Environmental Services, Inc.

The HWMB approved HTI's closure plan on August 11, 1993. With receipt of the health and safety plan, HTI may now begin closure. The HWMB requires a two week notice prior to the commencement of any on-site closure activities.

If you have any questions or desire assistance, please contact Mark Davis at (302) 739-3689.

Sincerely,

Nancy C. Marker

Ms. Nancy C. Marker
Program Manager II
Hazardous Waste Management Branch

cc. E. Alex Rittberg
Mark A. Davis

MAD93067

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RECEIVED

OCT-13 1993

HAZARDOUS WASTE
MANAGEMENT BRANCH
October 8, 1993

Mr. Mark Davis
State of Delaware
Dept. of Natural Resources & Environmental Control
Division of Air & Waste Management
89 Kings Highway
P.O. Box 1401
Dover, DE 19903

Dear Mark Davis:

We have contracted with Guardian Environmental Services to perform Closure Decontamination. A copy of their Safety Plan is enclosed.

We have contacted James C. Anderson Associates, Inc. to perform the supervision, analysis, and certification.

Yours Truly,

Lee W. Anderson
Lee W. Anderson
President



FILE COPY

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT

89 KINGS HIGHWAY
P.O. BOX 1401

DOVER, DELAWARE 19903

WASTE MANAGEMENT
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HAZARDOUS WASTE: (302) 739 - 3689
SOLID WASTE: (302) 739 - 3820
FAX: (302) 739 - 5060

APPROVAL NOTIFICATION

August 11, 1993

Certified Mail
Return Receipt Requested
P 374 483 051

Mr. Lee Wayne Anderson
32nd Street & Miller Road
Wilmington, DE 19802

Subject: RCRA Closure Plan

RE: DED002366854, File 15

Mr. Anderson:

The Department of Natural Resources and Environmental Control (DNREC), Hazardous Waste Management Branch (HWMB) reviewed your revised July 22, 1993, Hazardous Waste Closure Plan. The Branch hereby approves the plan subject to the conditions listed below. In accordance with the Delaware Regulations Governing Hazardous Waste (DRGHW), Section 265.112(d)(4), these conditions are now part of the approved plan.

1. HTI must use stainless steel sample collection equipment.
2. Attachment I of this correspondence details the statistical test that HTI must implement. Incorporate the italicized portion of the attachment into Appendix 7 of the approved plan.

If you have any questions or desire assistance, please contact Mr. Mark Davis of this office at (302) 739-3689. HTI must submit a "Health and Safety Plan" two weeks prior to commencement of on-site closure activities.

Sincerely,

Nancy C. Marker

Ms. Nancy C. Marker
Program Manager II
Hazardous Waste Management Branch

attachment

cc. Mark A. Davis
Cheryl A. Hess
E. Alex Rittberg
Ninth Ward Federation

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JAMES C. ANDERSON ASSOCIATES, INC.
CONSULTING ENGINEERS, SCIENTISTS, PLANNERS,
SURVEYORS AND LICENSED DRILLERS

SUITE C-120 • 1201 COLLEGE PARK DR. • DOVER, DELAWARE 19901 • (302) 678-5737 • FAX (302) 678-5739

July 22, 1993

Mr. Mark A. Davis
Hazardous Waste Management Branch
Department of Natural Resources and
Environmental Control
P.O. Box 1401
Dover, DE 19903-1401

FILE COPY

Re: Harper-Thiel, Inc.
July 9, 1993 Notice of Deficiency (N.O.D.)

Dear Mr. Davis:

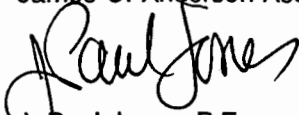
On behalf of Harper-Thiel, Inc. (HTI), and in response to the above referenced N.O.D., I am forwarding a revised closure plan. To aid your review the following is a summary of the changes associated with each N.O.D. comment:

1. Appendix 6, Section 2.0, Number 3. - A decontaminated bucket auger will be used when advancing from the 1-7" depth interval to the 7-13" interval. Appendix 6 has been revised accordingly.
2. Appendix 6, Section 4.2, F. - To accommodate your policy, a ten (10%) percent nitric acid rinse has been included in the decontamination protocol for all field equipment utilized for the collection of environmental samples destined for inorganic analysis. This has been accomplished by deleting Section 4.2, F.
3. "Action Levels" - Throughout the closure plan narrative the reference to "ACTION LEVELS" has been changed to "Additional Action Criteria". Appendix 7 is now entitled "Additional Action Criteria".
4. Appendix 7 - The statistical program has been revised to reflect Attachment I of the N.O.D.

Thank you for your cooperation in this matter. Please feel free to contact me with questions or further clarifications.

Sincerely:

James C. Anderson Associates, Inc.


J. Paul Jones, P.E.
Regional Director

RECEIVED

AUG 2 1993

cc: Mr. Wayne Anderson

**HAZARDOUS WASTE
MANAGEMENT BRANCH**



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STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT
89 KINGS HIGHWAY
P.O. Box 1401
DOVER, DELAWARE 19903

WASTE MANAGEMENT
SECTION

ENVIRONMENTAL RESPONSE: (302) 739 - 3694
HAZARDOUS WASTE: (302) 739 - 3689
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FAX: (302) 739 - 5060

NOTICE OF DEFICIENCY

Mr. Lee Wayne Anderson
President
Harper Thiel, Incorporated (HTI)
32nd Street & Miller Road
Wilmington, DE 19802

Certified Mail
Return Receipt Requested
P 374 483 084

Subject: RCRA Closure Plan

RE: DED002366854, File 15

Mr. Anderson:

The Department of Natural Resources and Environmental Control (DNREC), Hazardous Waste Management Branch (HWMB) reviewed your revised May 1993, Hazardous Waste Closure Plan. The Branch determines the plan deficient in meeting the requirements of the Delaware Regulations Governing Hazardous Waste (DRGHW), Section 265, Subpart G.

The deficiencies include but are not limited to the following:

1. Appendix 6, Section 2.0, Number 3. - When advancing the bucket auger from the 1-7" depth interval to the 7-14' depth interval, a decontaminated bucket auger must be used. This will minimize cross-contamination between the two samples.
2. Appendix 6, Section 4.2, F. - It is the policy of the HWMB to utilize stainless steel field equipment only. A ten (10 %) percent nitric acid rinse is a standard part of the equipment decontamination protocol for field equipment utilized for the collection of environmental samples destined for inorganic analysis. Please correct the wording of the referenced paragraph to reflect that protocol.
3. Appendix 7 and The Closure Plan cover letter from James C. Anderson Assoc. (JCA) response 2b. - As the HWMB stated in the March 21, 1993, Notice of Deficiency (NOD), the term "action levels" must be deleted from the closure plan narrative. The term "action levels"

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L. Anderson
June 30, 1993
Page 2

is inappropriately used in the context of this closure plan. As standard practice throughout the environmental industry and as a policy of this Department "action levels" are predetermined constituent concentrations in environmental media, which if exceeded trigger the initiation of a corrective measure. No statistical evaluation, determining confidence of the data, is required in that type of situation.

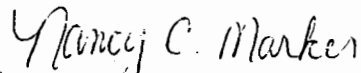
Mr. Jones correctly states in the May 24, 1993, closure plan cover letter, "closure plan requirements clearly specify that a criteria for evaluating adequacy must be established." The Branch has stated in previous correspondence and in the Closure Plan Guideline Document that the criteria for evaluating adequacy is based on a statistical comparison of the unit data to background data. The need for corrective measures to remediate quantified contamination will be based on that statistical comparison. The HWMB realizes that HTI proposes a statistical comparison program and the Branch comments on that program below. Action levels, properly defined, are not part of a statistical comparison strategy.

4. Appendix 7 - The proposed statistical program is deficient. In order to draft a comprehensive statistical program, please follow the directives detailed in Attachment I and resubmit.

Within thirty (30) days of receipt of this Notice, HTI must correct the previously cited deficiencies and submit documentation demonstrating compliance the stated requirements. Please submit documentation to the address listed at the beginning of this correspondence.

If you have any questions or desire assistance, please contact Mr. Mark Davis of this office at (302) 739-3689.

Sincerely,



Ms. Nancy C. Marker
Program Manager II
Hazardous Waste Management Branch

attachment

cc. Mark A. Davis
Cheryl A. Hess
E. Alex Rittberg

MAD93048



FILE COPY

STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT
89 KINGS HIGHWAY
P.O. BOX 1401
DOVER, DELAWARE 19903

WASTE MANAGEMENT
SECTION

NOTICE OF DEFICIENCY
93-HW-11

ENVIRONMENTAL RESPONSE: (302) 739 - 3694
HAZARDOUS WASTE: (302) 739 - 3689
SOLID WASTE: (302) 739 - 3820
FAX: (302) 739 - 5060

March 21, 1993

Certified Mail
Return Receipt Requested
P 374 483 109

Mr. Lee Wayne Anderson, President
Harper Thiel, Inc.
32nd Street and Miller Road
Wilmington, DE 19802

Subject: RCRA Closure Plan

RE: DED002366854, FILE 15

Mr. Anderson:

The Department of Natural Resources and Environmental Control, (DNREC) Hazardous Waste Management Branch (HWMB) reviewed Harper Thiel, Incorporated's (HTI) Revised Hazardous Waste Closure Plan. The HWMB determined the submittal deficient in meeting the requirements of Branch policy and the Delaware Regulations Governing Hazardous Waste (DRGHW), Section 265 Subpart G. The deficiencies include, but are not limited to the following:

1. Below are listed the deficiencies relating to the proposed RCRA units decontamination and confirmation sample collection programs:
 - a. Area V - The proposed method for assessing the structural integrity of the acetone drip pan is adequate to determine future use options, but is not an adequate method to assess whether or not the pan has ever leaked. If the pan does not leak it may be used again. HTI must implement a soil sample collection and analysis program at this unit.
 - b. Area IV and III - The decontamination confirmation sample collection program proposed for these units is inadequate. When collecting rinseate samples, established EPA field methods must be proposed and implemented. The proposed collection method is neither established nor is it technically adequate. HTI must

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collect either wipe samples and/or rinseate samples by established methodologies to assess the adequacy of closure decontamination procedures implemented at the units.

- c. Areas I and II - The decontamination confirmation sample collection program proposed for these units is inadequate. When collecting rinseate samples, established EPA field methods must be proposed and implemented. The proposed collection method is neither established nor is it technically adequate. HTI must collect either wipe samples, rinseate samples and/or chip samples by established methodologies to assess the adequacy of closure decontamination procedures implemented at the units.
 - d. Deionized water must be used when collecting rinseate and field blank samples, not potable as proposed.
2. The following details deficiencies identified within the proposed soil sample collection program:
- a. Area V - Soil sample collection at RCRA Unit V is not an option (proposed sample location C1). A sample collection and analysis program must be implemented for this unit.
 - b. HTI must remove all references to action levels for soil sample analytical results comparisons. The analytical levels resulting from the soil assessment program are being statistically compared to background levels from Haynes Park, established during an investigation performed in 1992 at the park and the facility by DNREC. The need for further actions will be based on the statistical comparisons, not on action levels.
 - c. HTI incorrectly stated the soil sample collection depth intervals. Soil samples should be collected from the two depth intervals: 1-7" and 7-13", not 1-7" and 8-14". Please correct wherever stated in the plan.
3. Upon review of the proposed soil and rinseate sample analytical program, the following deficiencies were identified:
- a. Area V - As stated previously, soil sample collection and analysis must be performed at this unit. After reviewing the distillation tank bottom analytical results, it is determined that HTI should incorporate Antimony, Cadmium, Silver, Vanadium and Thallium into the selected analytical list.

- b. Area III - Upon review of the submitted laboratory results, the HWMB determines that HTI must perform sample collection and analysis procedures for inorganics at Area III (Pot L). The inorganic parameters of concern must be the same as those proposed for Area IV (Pot R).
 - c. Area II - Because Area II and Area I are, for practical purposes, one unit, the same analytical parameters proposed for Area I must be added to the analytical list for Area II.
 - d. HTI must state what type of Analytical QA/QC Package will be included in the Closure Certification Report.
4. The proposed statistical program is inadequate. Individual soil sample results should not only be grouped together and compared to the established background results, but should also be individually compared to the established background levels. The individual comparisons are actually more important than the group comparison, otherwise "hot spots" would go undetected and unremediated. HTI must correct its proposed statistical model incorporating this requirement.
5. Area III and Area IV are reversed on Table A1 and in Appendix 5. Please correct.
6. HTI must quantify the statement, "*any marked increase*", located on the first page, fourth paragraph of Appendix 7. HTI must be more specific about the proposed requirements which will trigger additional action if Ph results deviate from expected norms.
7. Please correct the typographical errors, grammatical errors and punctuation mistakes found on pages 11, 13, and 14.

Within thirty (30) days of receipt of this Notice, HTI must correct the previously cited deficiencies and submit documentation demonstrating compliance. Documentation must be submitted to the following address:



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
& ENVIRONMENTAL CONTROL
DIVISION OF AIR & WASTE MANAGEMENT
89 KINGS HIGHWAY
P.O. Box 1401
DOVER, DELAWARE 19903

WASTE MANAGEMENT
SECTION

ENVIRONMENTAL RESPONSE: (302) 739 - 3694
HAZARDOUS WASTE: (302) 739 - 3689
SOLID WASTE: (302) 739 - 3820
FAX: (302) 739 - 5060

TO: Don White, I&E
FROM: Mark A. Davis, HWMB
SUBJECT: Harper Thiel, Inc's. Closure Plan
DATE: January 19, 1993
RE: DED02366854, FILE 15

In response to your request for information regarding the Harper Thiel Closure Plan Notice of Deficiency (NOD), issued by the Hazardous Waste Management Branch (HWMB), we offer the following reply in the hope that it will meet your needs. The NOD was issued to the facility in accordance with the Delaware Regulations Governing Hazardous Waste (DRGHW), Section 265, Subpart G.

On December 21, 1992, the HWMB sent Harper Thiel, Inc. (HTI) an NOD detailing the identified deficiencies within its submitted Closure Plan. HTI submitted the plan as the first step in closing five RCRA regulated hazardous waste units. This same plan was previously subjected to public examination during a public comment period lasting from July 4, 1991 to August 4, 1991. As a result of comments received during the public notice, a public hearing was conducted on February 26, 1992. After the hearing, the Hearing Officer generated the Hearing Officers Report, dated October 29, 1992. Comments and recommendations entailed within the Hearing Officers Report, as well as technical deficiencies identified by the branch were incorporated in Closure Plan NOD response to HTI.

The following attempts to explain the rational for each sited deficiency. The NOD is quoted in bold print and an explanation of the deficiency follows.

1. **Because Harper-Thiel is located in a densely populated urban community, the facility must obligate to weekly inspections of its perimeter during and after closure and to keep a record of those inspections. Any breaches in the integrity of the surrounding fencing must be noted and immediately fixed or replaced. The back gate to the facility must be locked except when performing shipping or receiving operations.**

This comment was included in the NOD because the public raised a concern that breaches in the HTI perimeter fencing would allow children access to the property. In addition, the DRGHW, Section 265.14 (a) stipulates that "The owner operator must prevent the unknowing entry....of unauthorized persons...onto the active portion of his facility..." For this facility, that means perimeter fencing must be maintained.

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2. The Certifying Engineer or his designee must be on-site at all times during closure operations and keep a record of all closure activities.

The DRGHW, Section 265.115 states that an "independent registered professional engineer" must certify that the closure was performed in accordance with the facility's approved closure plan. In order to perform proper certification, the Branch has determined that either the engineer, or his designee must be at the closure site and observe all closure activities.

3. There is no justification stated in the Closure Plan for not performing decontamination confirmation sample collection and analysis at Areas III, IV, and V.

The HWMB has a policy that all facility's performing decontamination procedures during a RCRA closure must confirm the effectiveness of those procedures by approved analytical methods.

4. Harper-Thiel must propose a sample collection and analysis program addressing the soils surrounding the RCRA closing units to confirm that there were no releases. Analytical parameter selections must be based on historical waste storage data.

Collection and analysis of samples collected from around the closing RCRA unit is performed to identify and quantify possible releases from the unit.

5. All decontamination rinseate and materials must be tested to determine appropriate disposal options.

This is a standard procedure. Whenever a waste material is generated, it must be tested to determine appropriate disposal options.

6. Areas III and IV are incorrectly referred to as containers, please refer to the December 23, 1992 letter from the HWMB to Harper-Thiel in which the determination that the units are tanks is stated.

This is a correction in terminology.

This Notice of Deficiency is issued pursuant to 7 Del. C., Chapter 63 and the DRGHW Section 265, Subpart G. Upon receipt of this Notice, Harper Thiel, Inc. is required to supplement the application and submit documentation correcting the above stated deficiencies and demonstrating compliance within thirty (30) days of receipt of this notice.

MEMO - HTI
Don White
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Failure to comply with the aforementioned requirements will subject Harper Thiel, Inc. to further enforcement pursuant to 7 Del. C., Section 6309.

The proceeding is standard verbiage used in NODs generated by the HWMB.

I hope you find the provided information useful. If you have any other questions or desire further assistance, please feel free to contact me at 739-3689.

/mad
MAD93005

